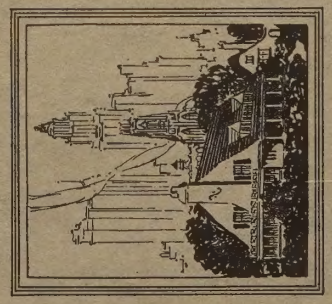
CHAMBERLIN DETAILS FOR WOOD SASH AND DOORS



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CHAMBERLIN
WEATHER STRIP DETAILS

CHAMBERLIN METAL WEATHER STRIP CO.
INCORPORATED
DETROIT . . . MICHIGAN

LOCAL BRANCH
Address

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PREFACE

The Information contained in this book has been accumulated for the sole purpose of giving the architect complete information on standard methods of equipping windows and doors with Chamberlin Metal Weather Strips. There are, of course, other types of openings for which Chamberlin has designed standard equipment. For these we gladly furnish special details upon request. The gauges given are those used in practically all installations. Where the architect desires heavier or lighter metal, it is only necessary to specify the gauge desired. Chamberlin can be furnished in any standard gauge. Specially designed equipment is available whenever conditions do not permit the installation of regular Chamberlin equipment.

Material—Chamberlin zinc weather strips are manufactured from cross-grain zinc only and are therefore sturdier than the cheaper, ribbon zinc product. However, Chamberlin Cold-Rolled Bronze metal has all the durable qualities of cross-grain zinc with the added one of attractiveness. We recommend the selection of Cold-Rolled Bronze for the finer buildings because its appearance blends favorably with decorations and furnishings. At the sills of outside doors extruded brass thresholds or Chamberlin Sill-Dor-Seals are much in demand. They are a weather protection and at the same time add dignity and beauty to main entrance doorways.

We recommend for entrance doors wide brass Sill-Dor-Seals Nos. 34, 34-A and 36. They add the finishing touch frequently necessary to set up a carefully-planned entrance.

Chamberlin Spring Bronze is substantially heavy, is highly tempered and hemmed at both edges. It should only be used on out-opening casements, sides and tops of doors and on transoms.

In-Dor-Seals—During sleeping hours, bedroom doors are virtually outside doors. The under-door crack of inside doors is usually ¾-inch high, and it is through this opening that cold air escapes from bedrooms chilling the rest of the house. Chamberlin In-Dor-Seals work automatically, sealing this opening when the door is closed and remaining clear of rugs and flush with the bottom of the door when door is open. They are needed on bathroom and attic doors to prevent heat loss from the bathroom and the escape of warm air into the attic. They are also necessary on basement and closet doors to eliminate dust circulation; on doors in schools, dormitories, hotels, hospitals, offices, corridors and private rooms.

Calking—Actual engineering tests prove that in ordinary construction the space between frames and masonry permits in-leakage of dust-laden air to an extent seldom realized. Chamberlin Plasti-Calk should be applied around all frames. (See Pages 8 and 9).

Installation—To insure the Architect and the public uniform installation and results,all Chamberlin equipments (Weather Strips, Plasti-Calk, Sill-Dor-Seals and In-Dor-Seals) are installed only by mechanics in the direct employ of 100 factory branches of the Chamberlin Metal Weather Strip Company, Inc. The equipments we regularly use are recommended. Our recommendations are guided by thirty-four years of practical experience and by experimentation with hundreds of weather strip designs. Yet, even with a correct design, *installation is at least equally as important in order to obtain uniformly satisfactory results.* By means of Chamberlin Branch Offices, a system of direct installation has been built up for the sole purpose of insuring consistently dependable results.

Service—Although only a limited guarantee was given in the early years of this Company, Chamberlin Service, as reflected in our present guarantee, is today available on every installation regardless of date of installation or of any subsequent change in building ownership.

Guarantee—The following guarantee is given with every installation of Chamberlin Metal Weather Strips: "We agree to correct any defects due to imperfect material or workmanship, under normal usage during the life of the building."

Specifications—A General and a Descriptive Specification are given for each type of equipment. The following is suggested for a General Specification where the architect prefers to include all weather strip work in one paragraph:

> All outside windows and doors shall be equipped with Chamberlin Metal Weather Strips as follows: Type ..... for Double-Hung windows; Type ..... for In-opening Casement Windows; Type ..... for Out-opening Casement windows; and so on. All sleeping room, bathroom, closet attic, inside basement doors, etc., shall be equipped with Chamberlin In-Dor-Seals.
>
> All joints around window and door frames shall be calked behind staff beads with Chamberlin Plasti-Calk.
>
> All installations of Weather Strips, In-Dor-Seals and Plasti-Calk shall be done in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company.

Chamberlin Metal Weather Strip Company, Inc., Detroit, Mich., U.S.A.

Description of Equipments

Their Adaptation and Selection

Chamberlin No. 100 for 1⅜-inch and 1¾-inch Sliding Windows is the development of thirty-four years of weather stripping and represents time-tried designs. Scores of designs including practically all present-day types have been developed by Chamberlin and have been experimented with at various times during the past thirty-four years. The oldest Chamberlin installations emphasize the fact, however, that in actual practice the simple, Chamberlin, tongue-in-groove principle is effective to the highest degree greatly due to the fact that it is augmented by a Chamberlin mechanic's application to specified Chamberlin installation details.

For instance, in Equipment No. 100 the frame metal is mitered at all corners, the vulnerable points; metal is kerfed under stops and stool and freely nailed with specified kinds of nails to insure rigidity and permanence. Meeting rail blocks seal the openings between meeting-rail-ends and the parting stops; regardless of warp, sash are grooved straight; thick meeting rails are dressed down to permit sash to "hug" the parting stops. When the total crack between the sash and runways of both sides exceeds 3/16-inch (corrugations of strip take up ⅛-inch) a packing of the required thickness is placed behind the side metal to bring both sash in snug contact with the corrugations of the side strips.

The proper width of the groove in comparison with the tongue *is* the determining factor in the tightness of a Chamberlin weather strip seal. DeVolson Wood (A. S. M. E. transactions, Volume No. 10), gives the lateral expansion of white pine as 2.6 per cent from dryness to saturation. Therefore in the Chamberlin groove which is approximately 1/8-inch wide a variation of 0.004-inch in width would take place from a sash condition of dryness to saturation.

Chamberlin, however, has found it impractical to allow only 0.004-inch but has found a standard clearance of 0.012-inch to be both efficient and practical, this being three times the expansion of the wood and sufficient under all circumstances. The loop tongue of the strip is wider at the tip than at the base, allowing for expansion and contraction. Laboratory tests and field tests on 10, 20 and 30-year old Chamberlin installations show that these installations have an efficiency of 90% at 15 miles per hour wind velocity. Greater groove clearances reduce definitely the value of a weather strip.

CHAMBERLIN No. 100 insures a positive contact at the entire perimeter of the sash and across the meeting rails. All Chamberlin zinc is cut across the grain from sheet zinc of the highest quality to avoid splitting and to obtain maximum strength.

We recommend cold-rolled bronze instead of zinc whenever the architect desires to obtain permanence, harmony and beauty in the materials of the better type of structures. There is an increasing demand for cold-rolled bronze weather stripping. When used in Chamberlin double-hung equipment the cost is approximately 25% to 35% higher than zinc.

See Fig. 2, Page 9, for Complete Results of Authoritative Tests on Leakage Through Various Parts of a Double-hung Window and Frame

Chamberlin No. 100-A for 2¼-inch and Heavier Sash is a development of the same principles used in CHAMBERLIN NO. 100. Equipment No. 100-A is to be preferred for wide or heavy sash but is also recommended for 1¾-inch sash where sash are frequently operated as in the case of hotels and commercial buildings. The sill metal is two gauges heavier than the sill of No. 100 and the tongue is 3/16-inch thick but ½-inch high or ⅛-inch higher than the tongue of No. 100. Great care is exercised in the manufacture of No. 100-A and close attention is given to the details of its installation—the groove clearance being .012-inch. CHAMBERLIN NO. 100-A is essentially a heavy-duty weather strip.

In cold-rolled bronze CHAMBERLIN NO. 100-A represents, we believe, the finest of weather strip equipment. The cost is approximately 25% to 35% higher than zinc.

Chamberlin No. 200 for In-Opening Casements (single or double) efficiently checks in-leakage of air as well as water.

The entire equipment is strongly made to withstand wear and tear, the metal in all cases being formed across the grain to insure maximum strength. The strips at the top interlock tightly; on the hinge side a loop tongue fits into the standard groove with .012-inch clearance. In the case of double casements this equipment offers an especially sturdy interlocking seal at the centers fully

Description of Equipments

Their Adaptation and Selection

protected with a flat, wooden astragal which is part of the equipment and added by Chamberlin when not already a part of the window.

In this equipment we provide substantial sill protection with 13 and 14 gauge (extra heavy) zinc channels. When sash are 1¾-inches thick a combination strip is used known as Nos. 82 and 83. The single channel, No. 84, is used when sash are 1⅜-inch thick. In both sills the outside wall is high enough to permit the edge to set in a rabbet as illustrated. The corners at the sill are also mitered. Should water find its way beyond this metal barrier it meets with still further resistance before it can penetrate beyond the weather strip seal proper. Oblong weep holes in the outer channel wall drain off any water that may get within the channel, but these openings are so covered that they prevent rain from being blown directly back and inward by occasional strong winds.

A spring bronze insert further strengthens the weather resisting qualities of the tongue-in-hook contact. Where rain drips or moldings are not a part of the window Chamberlin installs them.

When the above equipment is furnished in cold-rolled bronze Sill No. 84 or the combination of Nos. 82 and 83 are likewise furnished in cold-rolled bronze. The cost of cold-rolled bronze equipment is approximately 25% to 35% higher than zinc.

Chamberlin No. 200-A for In-Opening Casements (single or double), is identical with equipment No. 200 for the head, sides and center.

Two sizes of sturdy, extruded, polished brass channels are used on the sill, No. 66 for 1⅜-inch sash and No. 67 for sash 1¾-inches or more in thickness. The above sills, by nature of their sturdy construction, insure a lasting contact at the sill.

The front walls of this sill are high and fit into rabbets in the outside face of the sash. The tongues are tilted upward and together with the hook and spring bronze insert on the bottom edge of the sash, they form the weather strip seal. Rectangular weep holes serve to drain the channel. When screwed to a wooden sill two legs or ridges are so pressed into the wood as to prevent water leakage underneath. As in the case of No. 200 the Chamberlin Company adds astragals and rain drips or moldings when they are not already a part of the window.

Chamberlin No. 200-A in cold-rolled bronze at head, sides and centers, matches extremely well with Nos. 66 and 67 brass sill. Being one of the most efficient equipments against rain leakage, its quality demands its selection where the very best building materials are being considered. The cost of cold-rolled bronze is 25% to 35% higher than zinc.

Chamberlin No. 200-B for In-Opening Casements (single or double), is identical with No. 200 and No. 200-A for the heads, sides and centers. Therefore the same general description of these other equipments applies to No. 200-B.

The sill piece, however, is different in design. It was adopted in 1924 and is the result of years of experiment. It is virtually a double trough brass channel excepting that the two channels are super-posed and are drained by two sets of weep holes.

Designed to withstand exceptional and prolonged rain storms, it differs to a radical degree from the other types of sills. The channels are *back* of the weather strip seal. Under unusual conditions wind will drive rain into the corners and centers of casements. In this case, however, we obtain a maximum resistance to the in-leakage of rain by putting the weather strip seal to the outside. The inner wall of the channel is high and fits into a rabbet in the sash while weep holes amply provide for the outward drainage of water.

Chamberlin No. 200-B with its particular type of brass sill becomes an especially attractive equipment when cold-rolled bronze is used at the head, sides and centers. Being also highly efficient against rain leakage No. 200-B in cold-rolled bronze should receive every consideration in fine building construction. The cost of cold-rolled bronze is 25% to 35% higher than zinc.

Chamberlin No. 200-C for In-Opening Casements (single or double), differs from the other in-opening casement equipments at the centers and sills but in this case we offer an equipment designed to meet the unusual conditions of expansion and contraction brought about by extremes of dryness, heat and moisture.

Description of Equipments

Their Adaptation and Selection

On the head and hinge sides, as well as on the latch side of single casements No. 200-C is identical with No. 200, No. 200-A and No. 200-B. A special "T" shaped metal astragal takes the place of a wooden astragal and at the same time interlocks with the metal tongue strip of the active leaf.

The sill equipment consists of a specially wide trough, the outside horizontal tongue of which interlocks with a hook. The sill equipment as a whole allows for excessive expansion of the wood on the lower rail.

CHAMBERLIN No. 200-C is also furnished in cold-rolled bronze. When so furnished its quality, appearance and construction demand for it full consideration in weather proofing the finer buildings of semi-tropical climates.

Chamberlin No. 300 for In-Opening Casements (single or double), also equipments Nos. 300-A and 300-B, differ from the four preceding in-opening casement equipments, the 200 Series, only at the heads, sides and centers. The same types of sills are used in both series. In the 300 Series the metal at the heads, sides and centers is installed to the *outside of the sash*—notice that in the 200 Series the metal is installed within rabbets and is not visible from the outside.

Chamberlin experience, however, teaches that by installing the head, side and center metal on the outside edges of the sash, the weatherstrip seal is kept as far to the outside as possible. Therefore rain is kept toward the outside of the sash. This feature of the design of the 300 Series is prompted by years of experience—it meets the unusual demand for protection against possibly heavy water leakage.

Where there are prolonged rainy seasons and frequent driving rains and also where there is danger of an unusual amount of expansion and contraction the outside interlocking for casements is recommended.

In this equipment Chamberlin completes the installation with rain drips and split astragals. For the sill equipment of CHAMBERLIN NO. 300 refer to the sill described in CHAMBERLIN NO. 200.

CHAMBERLIN No. 300 is also furnished in cold-rolled bronze. It is preferable from an appearance standpoint in that the bronze color of the exposed weather strip members blends more readily with the colors of other materials. The cost is from 25% to 35% higher than zinc.

Chamberlin No. 300-A for In-Opening Casements (single or double), at the head, sides and center is identical with No. 300 and provides for the weather strip seal being installed on the outside of the sash. Similarly this equipment is especially designed to answer the demands of unusually heavy and severe rain conditions. Rain drips and split astragals are a part of the equipment.

The same recommendations for cold-rolled bronze that are mentioned for No. 300 likewise apply in this case. Together with the extruded brass sill equipment cold-rolled bronze provides for an unusually sturdy and lasting protection.

For the sill equipment of CHAMBERLIN NO. 300-A refer to the sill described in CHAMBERLIN NO. 200-A.

Chamberlin No. 300-B for In-Opening Casements (single or double), provides for the installing of the head, side and center metal on the outside of the sash and specifically as described in No. 300. In this case the outside interlocking method is combined with the double-trough sill described in CHAMBERLIN NO. 200-B. This sill is made of extruded brass, is highly polished, and securely mounted. If cold-rolled bronze metal is used at the head, sides and center the entire equipment will represent an installation of superior quality and permanence and is further recommended for reasons mentioned in description of No. 300.

Chamberlin No. 500 and No. 500-A for Out-Opening Casements (single or double), is a strong, interlocking metal equipment, similar in some respects to the equipment used in the 200 Series for in-opening casements. A particularly sturdy combination of weather strip members is used at the centers of double out-opening casements and since most out-opening casements are set in to prevent water leakage, a tight interlocking hook and extruded brass strip are used at the sill instead of the trough or channel sill used on in-opening casements. In equipment No. 500-A the weather strip treatment is identical with that of No. 500 excepting at the sill. Either of these two equipments is highly satisfactory although No. 500 is preferable, because of its sturdier construction at the sill. When entirely made

Description of Equipments

Their Adaptation and Selection

of cold-rolled bronze these equipments are the best weather strip obtainable for out-opening casements.

Chamberlin No. 500-B for Out-Opening Casements (single or double), is made of highly tempered, spring bronze, securely nailed to the window frame. Chamberlin mechanics are taught to nail spring bronze 1 inch apart and in such a manner as to prevent "kinks." Chamberlin Spring Bronze is of the highest quality—both edges being hemmed or folded while the metal itself is carefully tempered to retain its resiliency.

A spring bronze weather strip is not recommended when out-opening casements are set so as to bring them flush with the outside walls of the building. Equipment No. 500, the interlocking type, is preferable and should be used because the interlocking equipment is better in principle and superior in the results obtained.

Chamberlin No. 600 for Austral Windows is a standard one-piece weather strip application at the head, sides, sill and meeting rails. The sealing principle is identical in this and sliding window equipments (see No. 100), that is, a strong, beaded-edge sealing rib or tongue forming a weather strip contact within a wood groove of proper width.

An alternate to the above one-piece strip for the sides is a combination of male and female strips which interlock on the runways next to the parting beads. However, Chamberlin recommends the one-piece strip described in the first paragraph. It is a stronger equipment and in actual practice remains efficient over a long period of years. When made of cold-rolled bronze this equipment is particularly attractive. It can be furnished at an added cost of from 25% to 35%.

Chamberlin No. 700 for Outside Transom Windows is a strong interlocking metal equipment installed in a manner similar to the interlocking method used on casements and doors. On outside transoms the interlocking equipment is superior to an installation of spring bronze—it offers better protection against rain leakage and is air-proof to a high degree. This equipment is also furnished in cold-rolled bronze.

Chamberlin No. 700-A for Outside Transom Windows is made of highly tempered, hemmed edge, spring bronze securely nailed to the frame so as to touch the outside edges of the sash when sash are closed. This equipment, however, is not recommended if the transom is exposed to rain. Equipment No. 700 is effective and preferable when rain leakage is one of the problems that the weather strip is expected to solve.

Chamberlin No. 800 for Outside Doors (single or double), is efficient in design and performance. The weather strip in this case is of the interlocking type at the head and sides. At the sill a weather strip seal is accomplished by the interlocking of a sturdy cold-rolled bronze hook with the lip of a brass Sill-Dor-Seal. Because of the variety of Chamberlin Sill-Dor-Seals complete sill details are shown in connection with separate specifications on Pages 44 and 46. Note the automatic No-Dust Bottom. It is also satisfactory equipment for weatherproofing the bottoms of outside doors.

In the case of interlocking equipment at the sides and top zinc can be used but we strongly recommend cold-rolled bronze equipment. Cold-rolled bronze is superior and from a standpoint of appearance it harmonizes more satisfactorily with the woodwork of the doorway and the highly polished threshold or Chamberlin Sill-Dor-Seal.

Chamberlin No. 800-A for Outside Doors (single or double), is made of highly tempered, hemmed edge, spring bronze securely nailed to the frame so as to permit a tension contact with the outside edges of doors when doors are closed. A careful installation of spring bronze is most important to insure satisfactory results. On Page 43 special details illustrate the improved Chamberlin method of spring bronze weather stripping doors at the lower corners and around the keeper on the jamb.

Calking—Chamberlin Plasti-Calk

General Specification

All joints around outside window and door frames shall be calked with Chamberlin Plasti-Calk, hand applied in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company.

Specific Specification

All joints around all outside window and door frames shall be calked with Chamberlin Plasti-Calk, hand applied by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Wood, Window and Door Frames

1. For Calking Behind Staff Beads:

(a) The general contractor shall provide for removing temporarily set staff beads previous to the calking of joints around window and door frames; and after calking is completed, inspected and approved, he shall reset same permanently in place;

(b) Where joints between the frames and surrounding masonry are wider than ¼-inch and deeper than ¾-inch, these joints shall be packed to within ½-inch of frame surface with dry jute or oakum, solidly tamped. The remaining space shall be filled with Chamberlin Plasti-Calk.

2. For Calking Between Staff Beads and Masonry or where there is no Staff Bead:

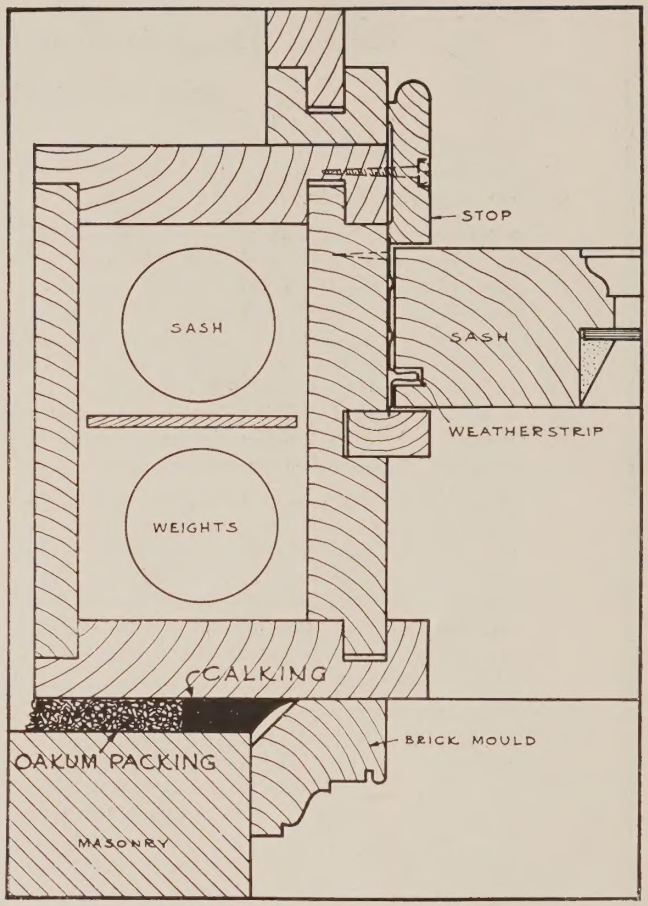
(a) Thoroughly calk all joints around all window and door frames with Chamberlin Plasti-Calk, forcing compound into the space between staff beads and masonry (or between frames and masonry), around jambs, heads and sills;

(b) Where joints between the staff beads and surrounding masonry (or between frames and surrounding masonry), are wider than ¼-inch and deeper than ¾-inch, these joints shall be packed to within ½-inch of frame surface with dry jute or oakum, solidly tamped. The remaining space shall be filled with Chamberlin Plasti-Calk.

Metal Window and Door Frames

(a) Thoroughly calk all joints around all window and door frames with Chamberlin Plasti-Calk, forcing compound into the space between the frames and surrounding masonry, around jambs, heads and sills;

(b) Where joints between frames and surrounding masonry are wider than ¼-inch and deeper than ¾-inch these joints shall be packed to within ½-inch of frame surface with dry jute or oakum, solidly tamped. The remaining space shall be filled with Chamberlin Plasti-Calk.



ONE-QUARTER SIZE DETAIL SHOWING CHAMBERLIN PLASTI-CALK BEHIND STAFF BEAD

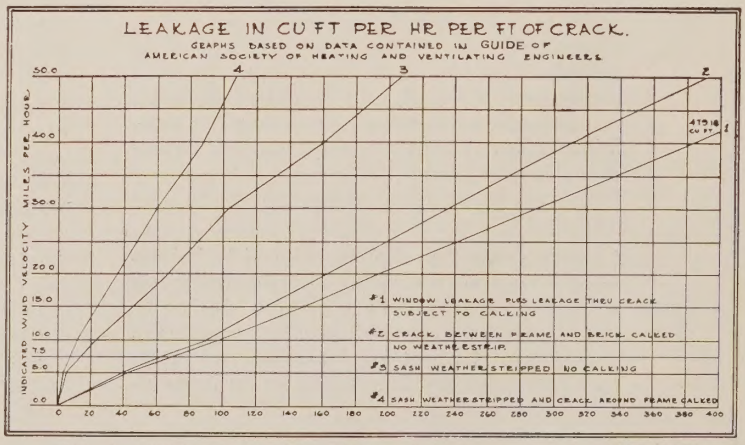

LEAKAGE IN CU FT PER HR PER FT OF CRACK.
GRAPHS BASED ON DATA CONTAINED IN GUIDE OF AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS
INDICATED WIND VELOCITY MILES PER HOUR
#1 WINDOW LEAKAGE PLUS LEAKAGE THRU CRACK SUBJECT TO CALKING
#2 CRACK BETWEEN FRAME AND BRICK CALKED NO WEATHERSTRIP
#3 SASH WEATHERSTRIPPED NO CALKING
#4 SASH WEATHERSTRIPPED AND CRACK AROUND FRAME CALKED

FIG. I—EFFECT OF CALKING—BASED ON A. S. H. & V. E. GUIDE DATA

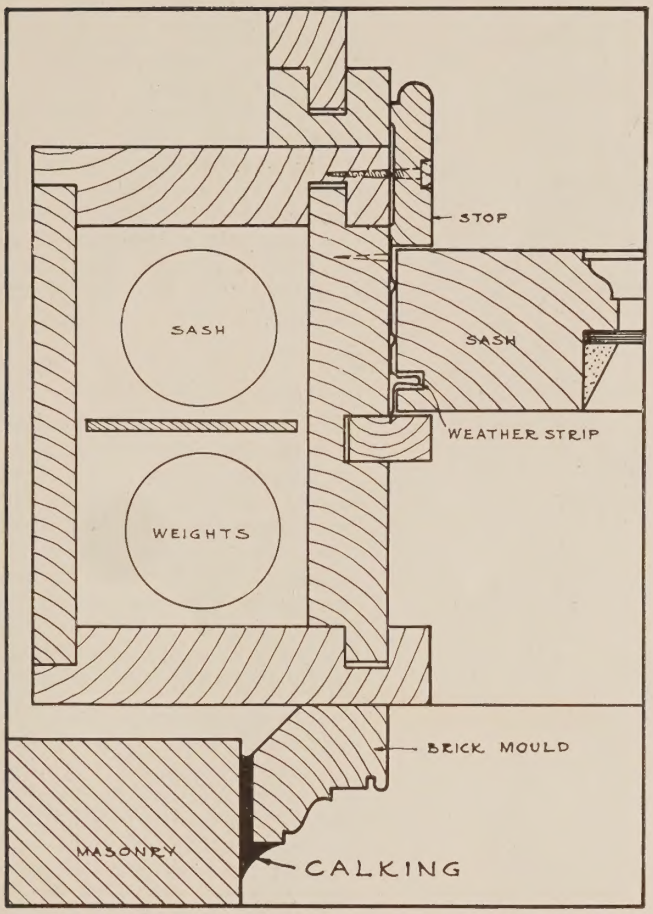
Chamberlin Plasti-Calk Seals Cracks Around Wood or Metal Window and Door Frames

Elastic, Durable, Adhesive, Non-Crumbling. Sealing Against Wind, Moisture and Dirt.

The reasons for calking are identical with those reasons which prompt the use of metal weather strips. Calking is equally as important as weather stripping—its functions are equally as effective in obtaining the elimination of heat loss and infiltration of cold, soot-laden air.

It is only necessary to observe the dust streaks which are often visible on the inside walls around the window and door frames of buildings of masonry construction to obtain evidence of this in-leakage which necessitates the application of a Chamberlin Plasti-Calk barrier. Cracks around wooden frames develop because of shrinkage in the wood and a settling of materials. The latter is true in connection with metal frames, although

Calking—Chamberlin Plasti-Calk



ONE-QUARTER SIZE DETAIL SHOWING CHAMBERLIN PLASTI-CALK BETWEEN STAFF BEAD AND MASONRY

surface of Chamberlin Plasti-Calk, preventing the escape of oil from the remainder of the material. Under this protective skin Chamberlin Plasti-Calk remains elastic and tenaciously adhesive to the surrounding wood, metal and masonry materials. Unlike putty or cement Chamberlin Plasti-Calk will not harden, crack or crumble away.

The expansion feature of Chamberlin Plasti-Calk is the secret of its lasting qualities and of its efficiency. Unlike asphalt base calking compounds Chamberlin Plasti-Calk can be painted over without any danger of the paint peeling off. However, Plasti-Calk can be furnished in several colors, slate grey being adaptable in most instances.

Additional Uses for Chamberlin Plasti-Calk

This material is also used advantageously in filling cracks in the frames themselves, in setting tile, in glazing, in waterproofing showers, etc. In Detroit 210 shower bath-rooms in Webster Hall were Plasti-Calked after the building was completed. This installation has effectively solved the water leakage which had already developed into a very damaging problem.

Chamberlin Plasti-Calk is the result of our twenty years of research into the effectiveness of many kinds of materials. The Chamberlin Company was the first to recognize the use of Calking on buildings for the purposes we have described. In calking, as in weather stripping, it is necessary that only the best materials be used and applied to standard specifications (preferably by hand), by men who are trained in that work.

Fig. 1, Page 8, illustrates the results of calking. The chart is a graphic interpretation of Table 14 of the 1926-1927 Guide of the American Society of Heating and Ventilating Engineers. The information contained is Table 14 of the Society's Guide in based on many exhaustive tests made in collaboration with the A. I. A. and on an accumulation of practical evidence from reliable engineering sources.

The No. 1 line represents the total air leakage that will exist per ft. of crack per hour in the case of an average *wood window and frame*, when *no calking* and *no weatherstripping is used.* The figures at the left of the chart indicate wind velocities.

Line No. 2 represents the total air leakage that will exist per ft. of crack per hour after the crack between the frame and masonry *is calked.*

Example—Efficient Calking around the frame of a 32″ x 32″ x 32″ x 1⅜-″ wood window of a total crack of approximately 18 feet will practically eliminate the inleakage of 406.98 cubic feet per hour at *one window.* From Table 14 of the A. S. H. and V. E. Guide it is found that the above hourly leakage of 406.98 cubic feet requires 2.14 square feet of radiation to heat the air from 0° to 70° F. Therefore, as in the case of weatherstripping, calking should influence the computation of radiation requirements, particularly in the case of larger buildings.

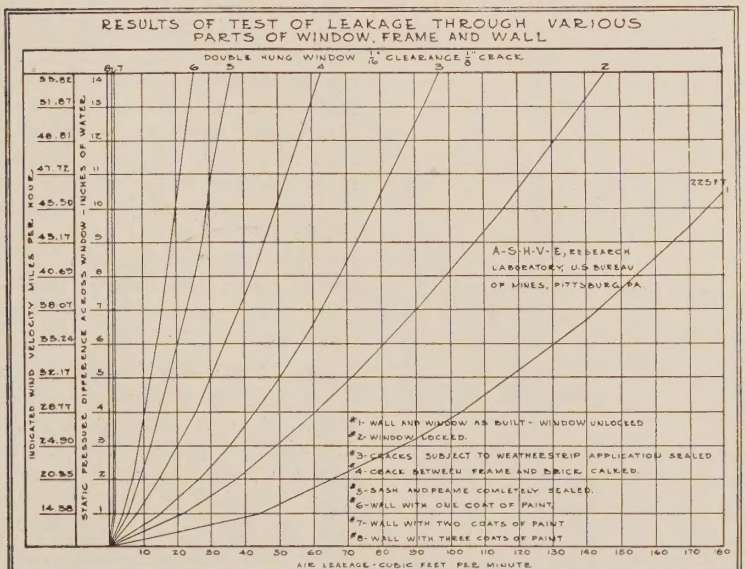

RESULTS OF TEST OF LEAKAGE THROUGH VARIOUS PARTS OF WINDOW, FRAME AND WALL
DOUBLE HUNG WINDOW 1/16" CLEARANCE 1/8" CRACK
INDICATED WIND VELOCITY MILES PER HOUR
STATIC PRESSURE DIFFERENCE ACROSS WINDOW - INCHES OF WATER
A-S-H-V-E, RESEARCH LABORATORY U.S. BUREAU OF MINES, PITTSBURG, PA.
#1- WALL AND WINDOW AS BUILT - WINDOW UNLOCKED
#2- WINDOW LOCKED.
#3- CRACKS SUBJECT TO WEATHERSTRIP APPLICATION SEALED
#4- CRACK BETWEEN FRAME AND BRICK CALKED.
#5- SASH AND FRAME COMPLETELY SEALED.
#6- WALL WITH ONE COAT OF PAINT.
#7- WALL WITH TWO COATS OF PAINT
#8- WALL WITH THREE COATS OF PAINT
AIR LEAKAGE - CUBIC FEET PER MINUTE

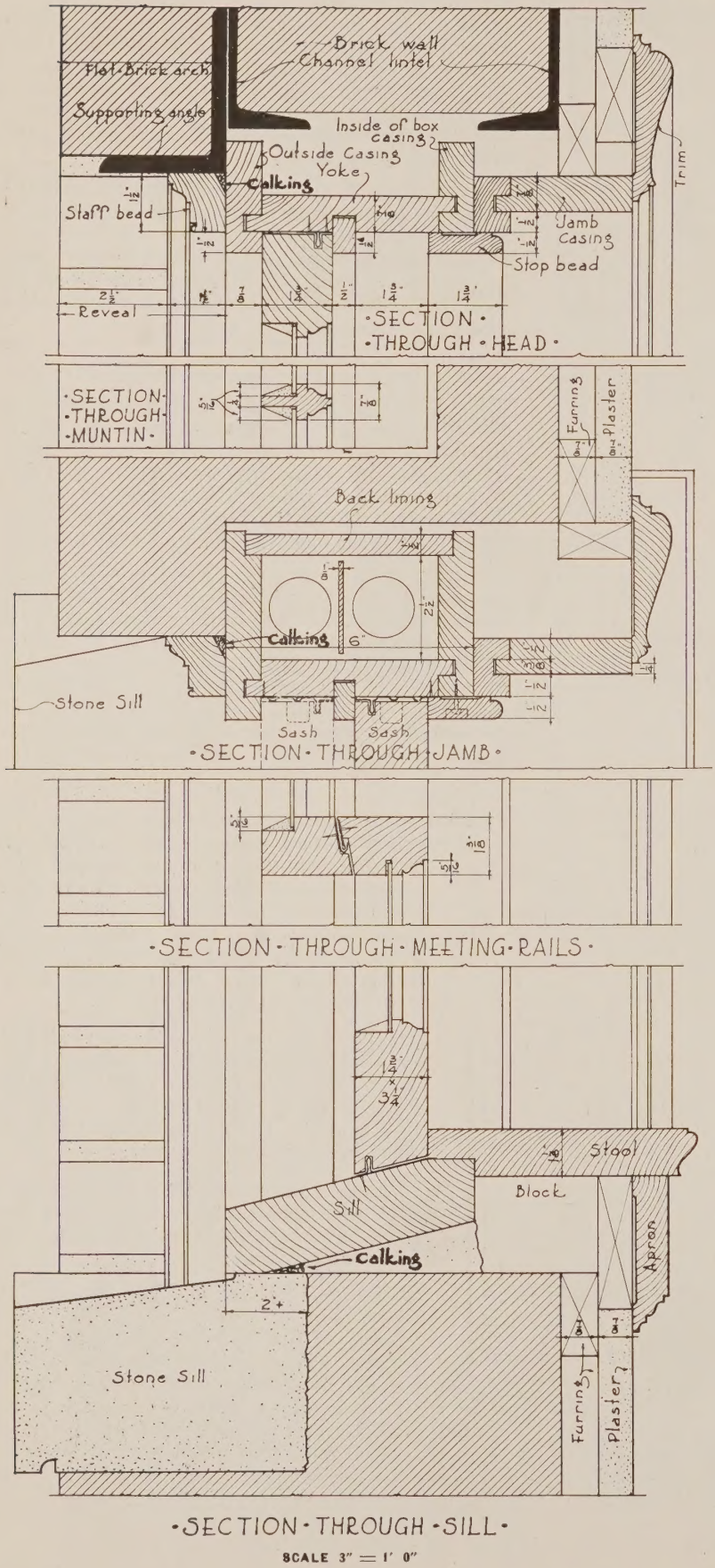
FIG. 2—CHART OF OFFICIAL AIR-LEAKAGE TESTS. COPYRIGHT 1924 AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS; PUBLISHED BY PERMISSION.

in the case of both wood and metal frames there is a continual variation of this crack due to the variable co-efficient of expansion of the materials when affected by temperature and humidity.

After application a skin or film forms over the exposed

Chamberlin Equip't No. 100—Double-Hung Windows

1⅜" and 1¾" Sash



General Specification

All double-hung wood windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 100, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

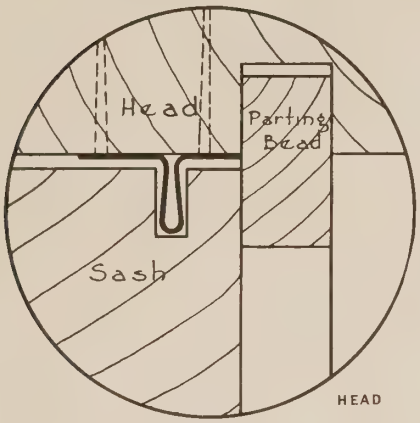
All double-hung wood windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 100, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Frame shall be equipped at sides adjoining each sash with a double-corrugated one-piece strip .018-inch thick(.0179) having shoulder bearing corrugation; sill with a one-piece strip .020-inch thick (.0179); head with a one-piece strip .020-inch thick (.0179); all strip shall have beaded-edge sealing rib extending ⅜-inch at right angles to base; sill and head strips coped over by jamb strips; corners to form sealing joints. All ribs set to enter a groove ⅜-inch deep with a side clearance of .012-inch. Grooves ploughed in edge of stiles, top and bottom rails, ⅜-inch from outside face of lower sash and ⅜-inch from inside face of upper sash, measured to center of grooves. Pulley covers shall be securely nailed over pulley holes in lower sash runway.

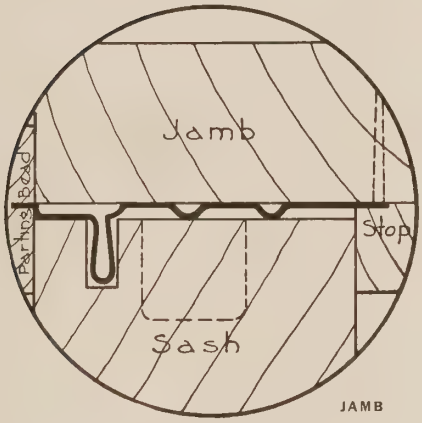
Upper Sash—Wide flange of base shall enter kerf in outside stop. Base of strip shall cover full width of pulley stiles and be securely nailed to same; base of head strip shall be securely nailed 3 inches apart to window frame. Head strip coped over by jamb strips.

Meeting Rails—Male member shall be .018-inch thick (.0179), folded back on itself, attached to outside face of top rail of lower sash and female member shall be .028-inch thick (.0225), and attached to inside face of lower rail

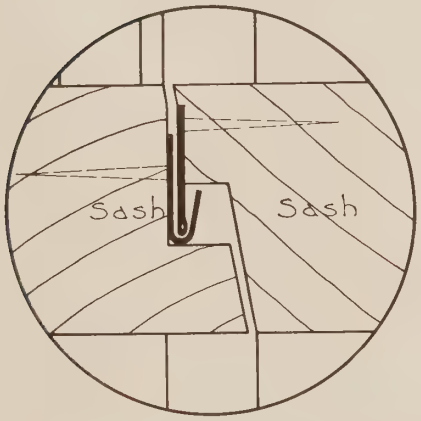
Full-Size Details — Weather Strip Gauges — Equipment No. 100



HEAD



JAMB



MEETING RAILS

ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	6	10	.020
Sill, 1⅜″ sash	7	10	.020
Sill, 1¾″ sash	8	10	.020
Sides, upper & lower, 1⅜″ sash	1	9	.018
Sides, upper, 1¾″ sash	1	9	.018
Sides, lower, 1¾″ sash	2	9	.018
Meeting rail, male member	5	9	.018
Meeting rail, hook member	5	12	.028

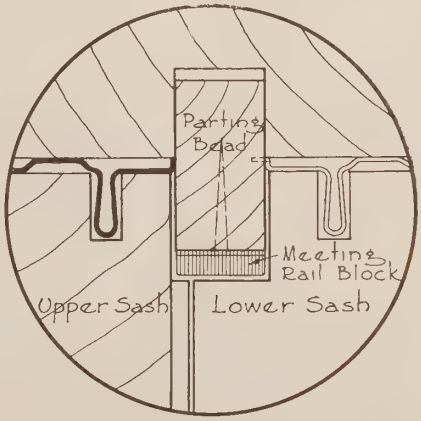
COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	6	25	.0179
Sill, 1⅜″ sash	7	25	.0179
Sill, 1¾″ sash	8	25	.0179
Sides, upper & lower, 1⅜″ sash	1	25	.0179
Sides, upper, 1¾″ sash	1	25	.0179
Sides, lower, 1¾″ sash	2	25	.0179
Meeting rail, male member	5	25	.0179
Meeting rail, hook member	5	23	.0225

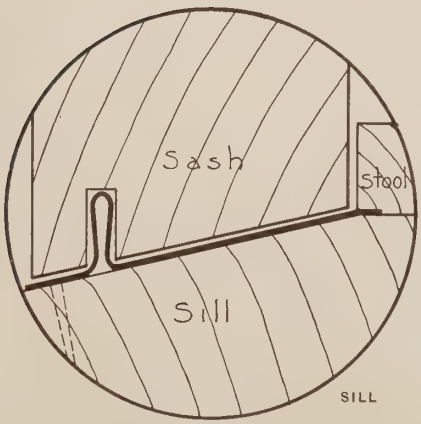
of top sash. Both strips shall be securely nailed 2 inches apart to rails and applied in such a manner as to interlock when sash are closed. When the space between meeting-rail-ends and the parting beads exceeds 1/16-inch, metal meeting rail blocks shall be used.

Lower Sash — Narrow flange of base shall enter kerf in parting bead; wide flange of base shall enter under inside stop and be securely held by same at jambs. Sill strip narrow flange shall be securely nailed 1 inch apart and wide flange shall enter under window stool and be securely held by same.

METAL MEETING RAIL BLOCK

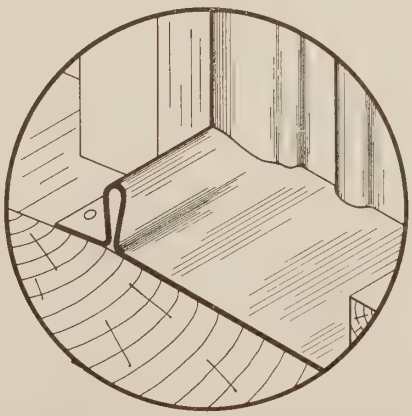
MEETING RAIL BLOCK INSTALLED USED WHERE SPACE BETWEEN MEETING-RAIL-ENDS AND PARTING BEADS EXCEEDS 1/16-INCH





SILL

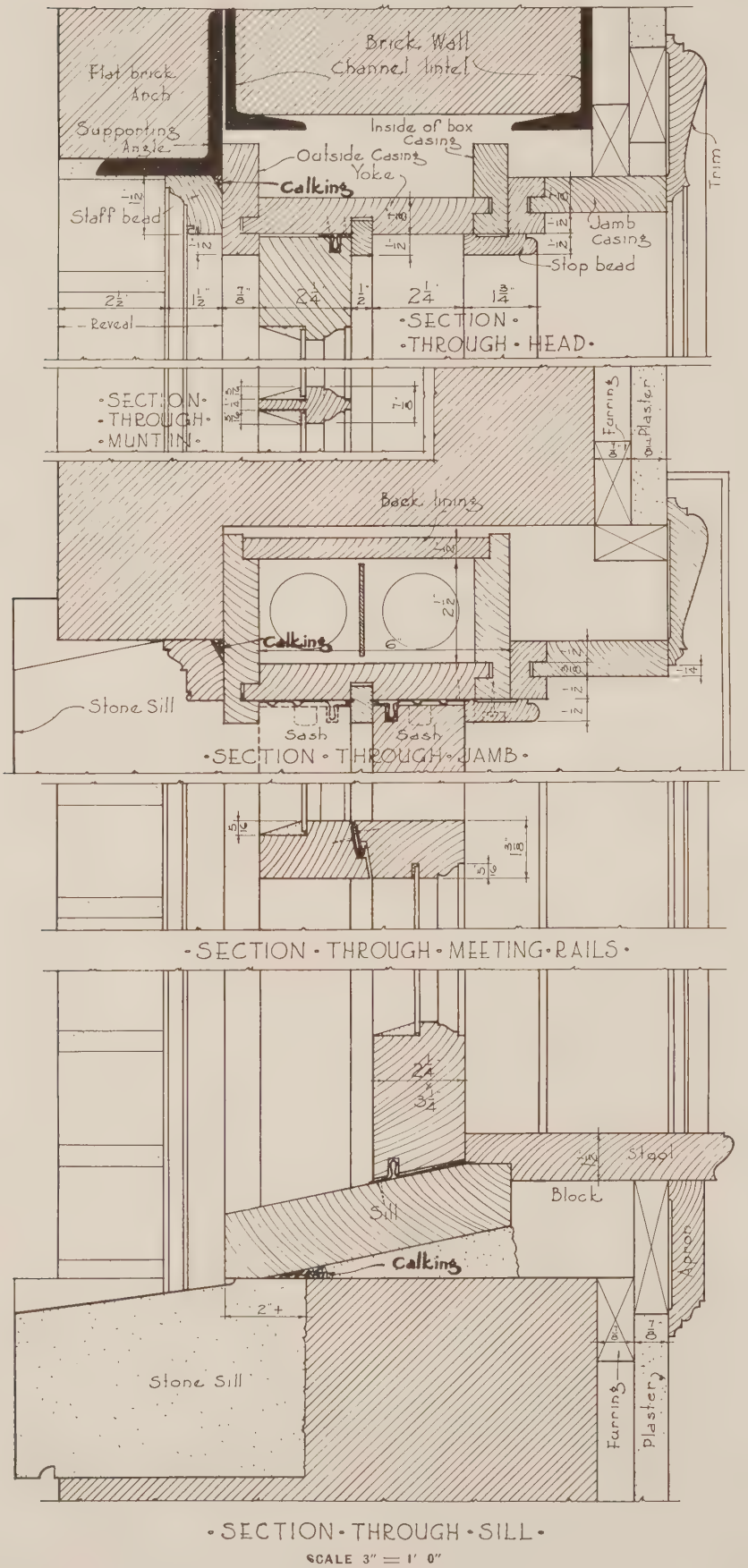
MITERED CORNER



A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 100-A — Double-Hung Windows

2¼" and Heavier Sash (Also 1¾" Sash of Hotels, Offices, Etc.)



General Specification

All double-hung wood windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze) Type 100-A, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

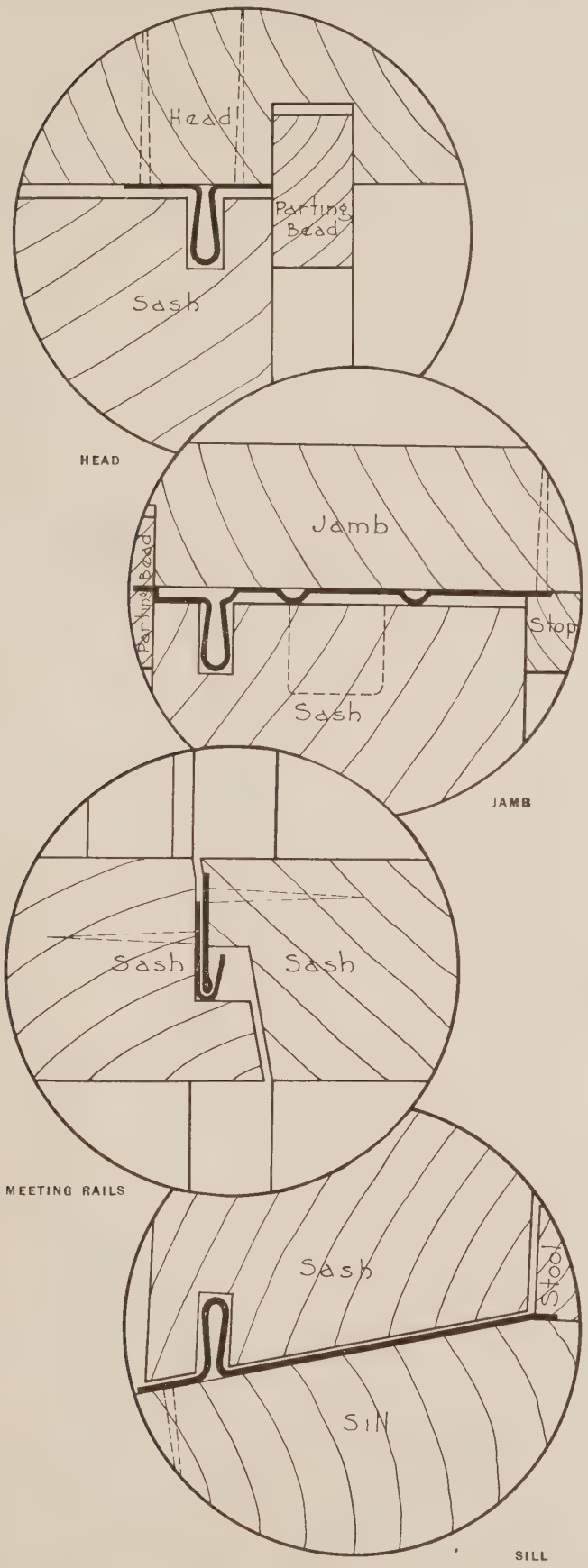
All double-hung wood windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 100-A, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Frame shall be equipped at sides adjoining each sash with a double-corrugated one-piece strip .020-inch thick (.0179) having shoulder-bearing corrugation; sill with a one-piece strip .028-inch thick (.0225); head with a one-piece strip .020-inch thick (.0179); all strips shall have beaded-edge sealing rib extending ½-inch at right angles to base; sill and head strips coped over by jamb strips, corners to form sealing joints. All ribs set to enter a groove ½-inch deep with a side clearance of .012-inch. Grooves ploughed in edge of stiles, top and bottom rails, ⅜-inch from outside face of lower sash and ⅜-inch from inside face of upper sash, measured to center of grooves. Pulley covers shall be securely nailed over pulley holes of lower sash runway.

Upper Sash—Wide flange of base shall enter kerf in outside stop. Base of strip shall cover full width of pulley stiles and be securely nailed to same; base of head strip shall be securely nailed 3 inches apart to window frame. Head strip coped over by jamb strips.

Meeting Rails—Male member shall be .018-inch thick (.0179), folded back on itself, attached to outside face of top rail of lower sash and female member shall be .028-inch thick (.0225), and at-

Full-Size Details — Weather Strip Gauges — Equipment No. 100-A



ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	76	10	.020
Sill	79	12	.028
Sides, upper	72	10	.020
Sides, lower	73	10	.020
Meeting rail, male member	5	9	.018
Meeting rail, hook member	5	12	.028

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	76	25	.0179
Sill	79	23	.0225
Sides, upper	72	25	.0179
Sides, lower	73	25	.0179
Meeting rail, male member	5	25	.0179
Meeting rail, hook member	5	23	.0225

tached to inside face of lower rail of top sash. Both strips shall be securely nailed 2 inches apart to rails and applied in such a manner as to interlock when sash are closed. When the space between meeting-rail-ends and the parting beads exceeds 1/16-inch, metal meeting rails shall be used.

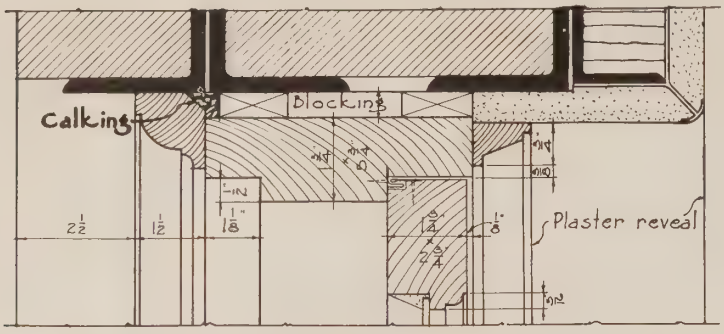
Lower Sash — Narrow flange of base shall enter kerf in parting bead; wide flange of base shall enter under inside stop and be securely held by same at jambs. Sill strip narrow flange shall be securely nailed 1 inch apart and wide flange shall enter under window stool and be securely held by same.

(See Special Details on Page 11)

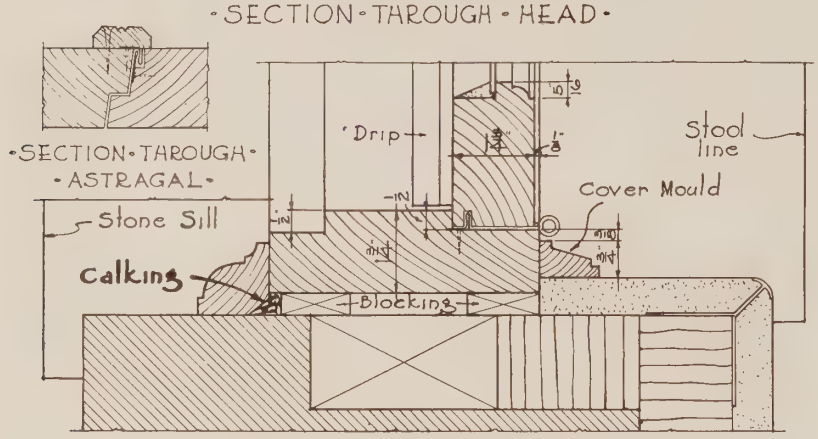
A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 200 — In-Opening Casement Windows

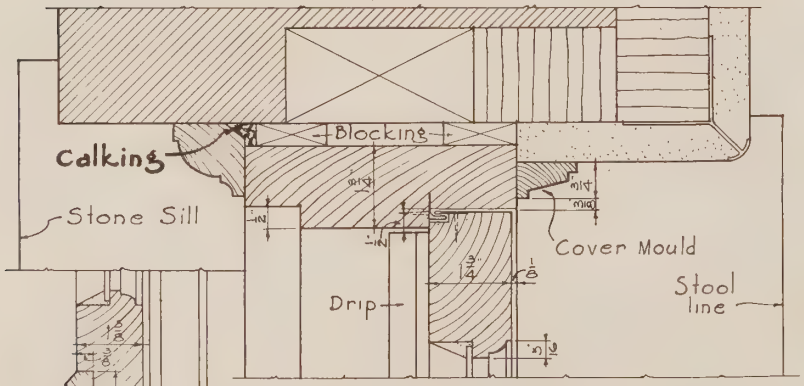
Interlocking with Channel



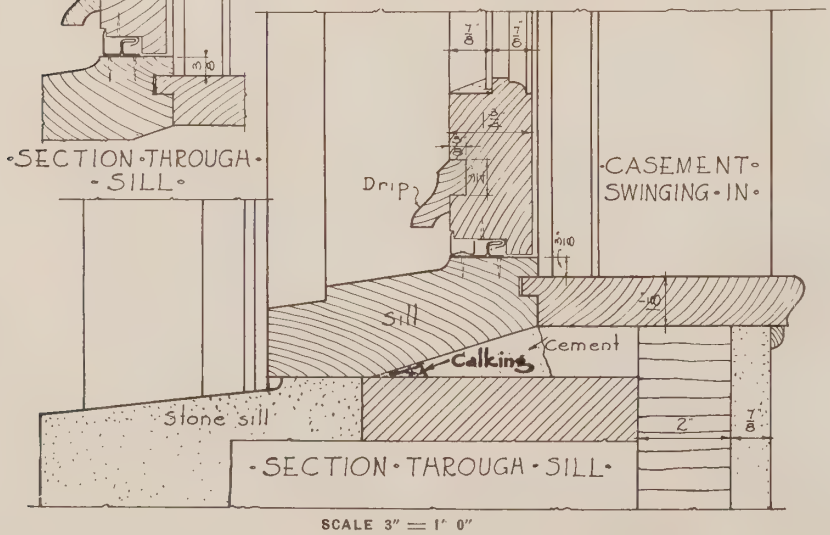
·SECTION·THROUGH·HEAD·



·SECTION·THROUGH·JAMB·
·ON·HINGE·SIDE·



·SECTION·THROUGH·JAMB·



·SECTION·THROUGH·SILL·

SCALE 3" = 1' 0"

General Specification

All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 200, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

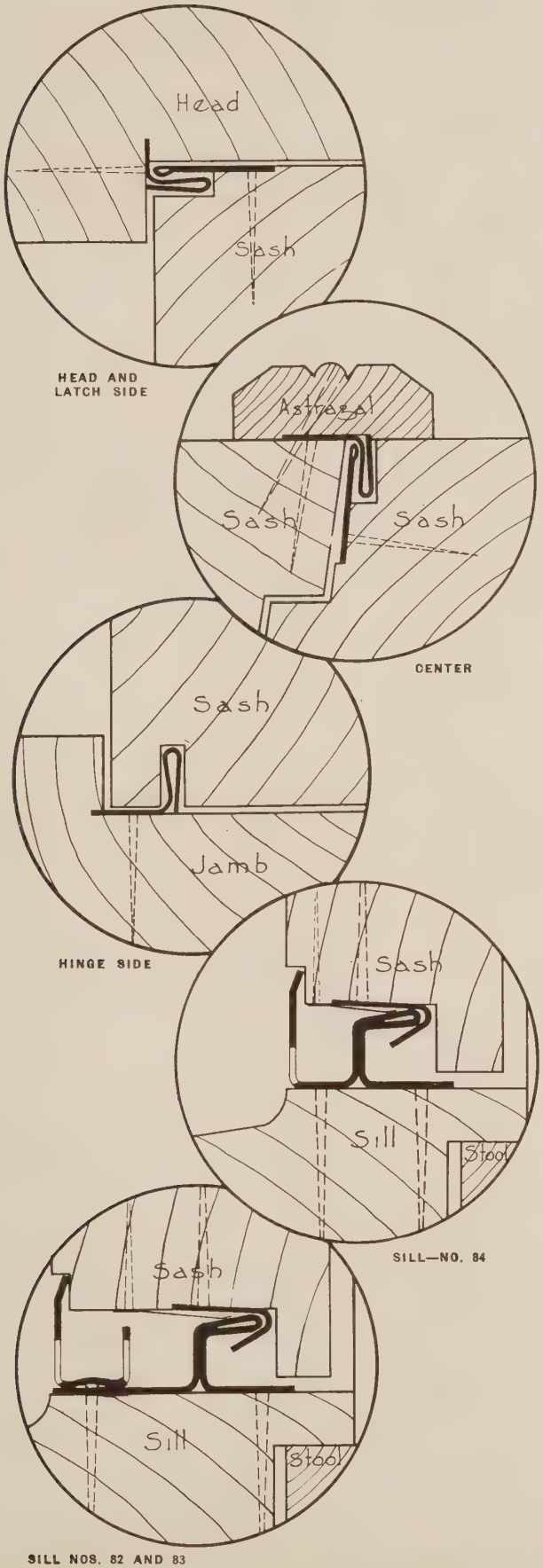
All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 200, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top and Latch Side of frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop; top and latch side of sash shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash in such a manner as to interlock with strip on frame.

Center of Double Casement— Outside edge of active leaf shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and nailed 1 inch apart. Outside face of inactive leaf shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and nailed 2½ inches apart to interlock with strip on active leaf when sash are closed. Outside face of inactive leaf shall be equipped with a flat, wooden astragal securely nailed to overlap the center when sash are closed.

Hinge Side shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and shall enter a groove ⅛-inch wide x ⅜-inch deep ploughed in edge of stile, ⅜-inch from face of sash to center of groove. Flange of

Full-Size Details — Weather Strip Gauges — Equipment No. 200



ZINC			
	Strip Numbers	Gauge Zinc Std	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	5 male 21	9 10	.018 .020
Hinge side	21	10	.020
Latch side	5 male 21	9 10	.018 .020
Sill, 1⅜″ sash	84	13	.032
Sill, 1¾″ sash	82 83	13 14	.032 .036
Sill, hook member	5	12	.028

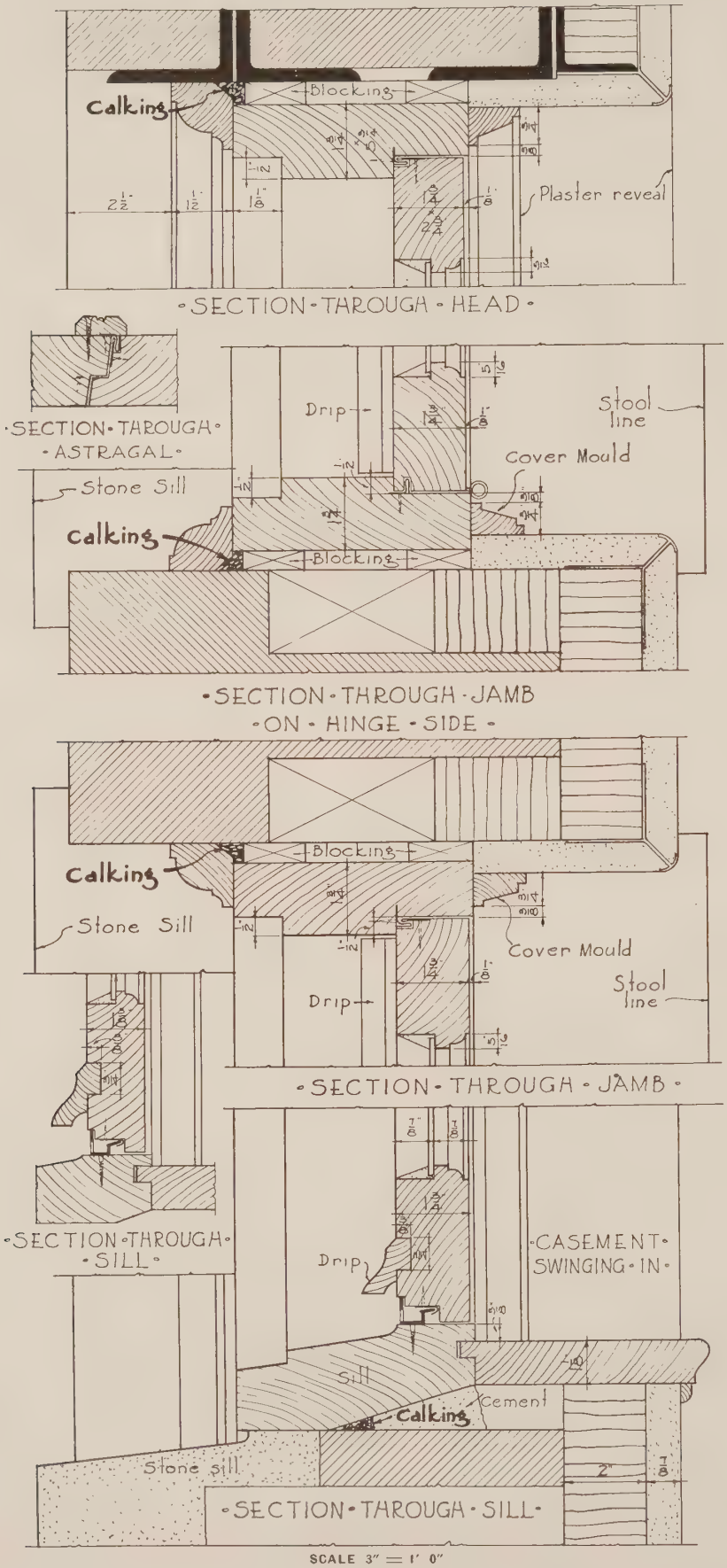
COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	5 male 21	25 25	.0179 .0179
Hinge side	21	25	.0179
Latch side	5 male 21	25 25	.0179 .0179
Sill, 1⅜″ sash	84	20	.0319
Sill, 1¾″ sash	82 83	20 20	.0319 .0319
Sill, hook member	5	23	.0225

strip shall enter kerf in stop and shall be securely nailed 2 inches apart to frame.

Bottom Edge of lower sash rail shall be rabbeted to receive a hook strip .028-inch thick (.0225), securely nailed 1½ inches apart; sill of frame shall be equipped with a single channel strip for sash 1⅜ inches in thickness; flange of base nailed 1 inch apart and 2 inches apart in the channel. When sash are 1¾-inches or more in thickness, sill of frame shall be equipped with a double-channel strip, inside flange nailed 1 inch apart and 3 inches apart in the channel. Channels shall contain rectangular weep holes and shall interlock with hook strip when sash are closed. To bottom edge of lower sash rail a flexible, spring bronze insert shall be securely nailed 1 inch apart so as not to extend beyond beaded edge of sill member and to form a sealing joint with it when sash are closed. To outside face of bottom edge of lower sash rail wooden rain drips shall be securely screwed and placed in position so as to clear sill equipment when sash are opened and closed.

Chamberlin Equip't No. 200-A — In-Opening Casement Windows

Interlocking with Extruded Brass Channel



General Specification

All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze). Type 200-A, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

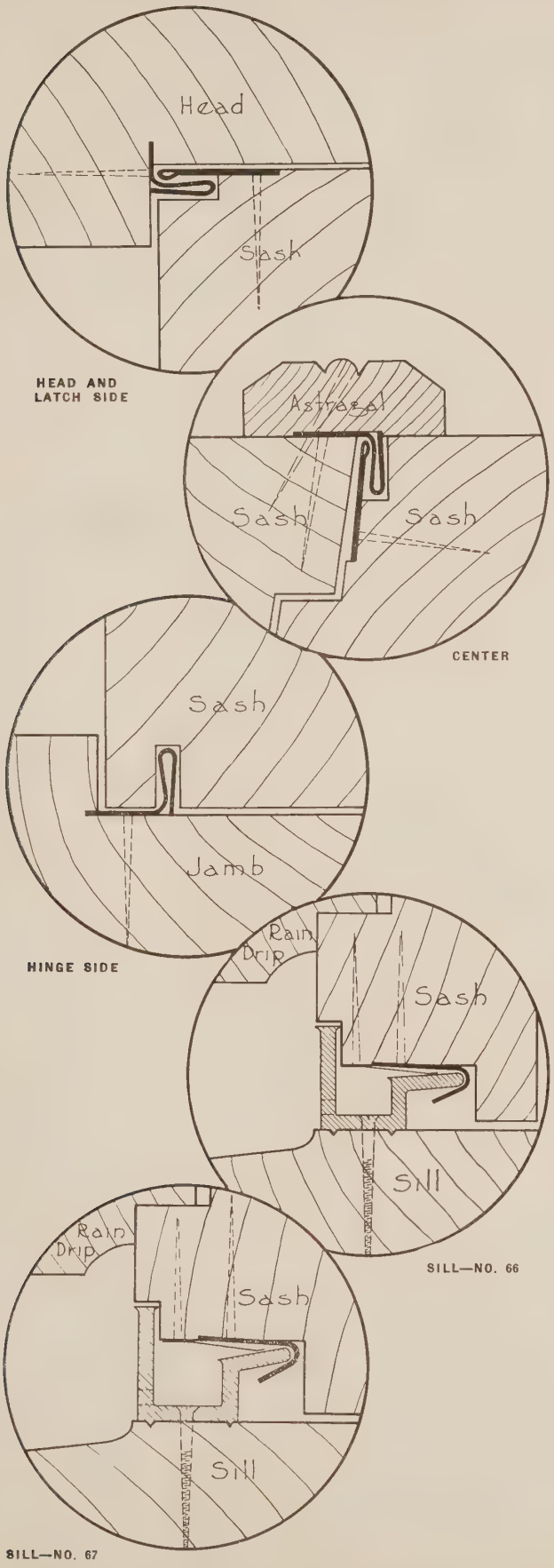
All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 200-A, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top and Latch Side of frame shall be equipped with a strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop; top and latch side of sash shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash in such a manner so as to interlock with strip on frame.

Center of Double Casement— Outside edge of active leaf shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and nailed 1 inch apart. Outside face of inactive leaf shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and nailed 2½ inches apart to interlock with strip on active leaf when sash are closed. Outside face of inactive leaf shall be equipped with a flat, wooden astragal securely nailed to overlap the center when sash are closed.

Hinge Side shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and shall enter a groove ⅛-inch wide x ⅜-inch deep ploughed in edge of stile, ⅜-inch from face of sash to

Full-Size Details — Weather Strip Gauges — Equipment No. 200-A



ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	5 male 21	9 10	.018 .020
Hinge side	21	10	.020
Latch side	5 male 21	9 10	.018 .020
Sill, 1⅜″ sash	66	Extruded Brass	
Sill, 1¾″ sash	67	Extruded Brass	
Sill, hook member	5	12	.028

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	5 male 21	25 25	.0179 .0179
Hinge side	21	25	.0179
Latch side	5 male 21	25 25	.0179 0179
Sill, 1⅜″ sash	66	Extruded Brass	
Sill, 1¾″ sash	67	Extruded Brass	
Sill, hook member	5	23	.0225

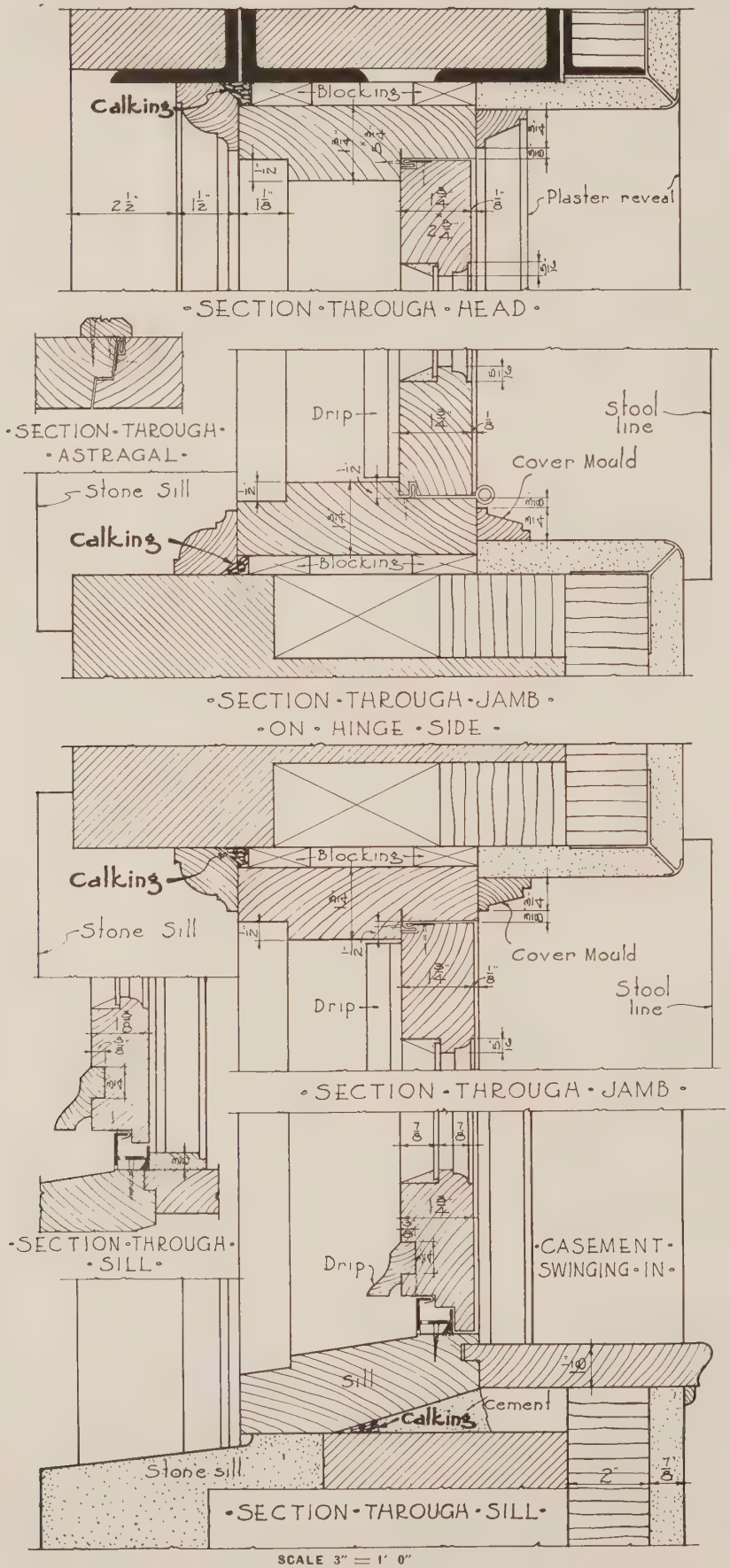
center of groove. Flange of strip shall enter kerf in stop and shall be securely nailed 2 inches apart to frame.

Bottom Edge of lower sash rail shall be rabbeted to receive a hook strip .028-inch thick (.0225), securely nailed 1½ inches apart; sill of frame shall be equipped with a single-channel, extruded brass strip screwed to sill 2½ inches from jambs and approximately 4 inches apart between these two points. Channels shall contain rectangular weep holes and shall interlock with hook strip when sash are closed. To bottom edge of lower sash rail a flexible, spring bronze insert shall be securely nailed 1 inch apart so as not to extend beyond lip of sill member and to form a sealing contact with it when sash are closed. To outside face of bottom edge of lower sash rail wooden rain drips shall be securely screwed and placed in position so as to clear sill equipment when sash are opened and closed.

A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 200-B — In-Opening Casement Windows

Interlocking with Extruded Brass Double-Trough Channel



General Specification

All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 200-B, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

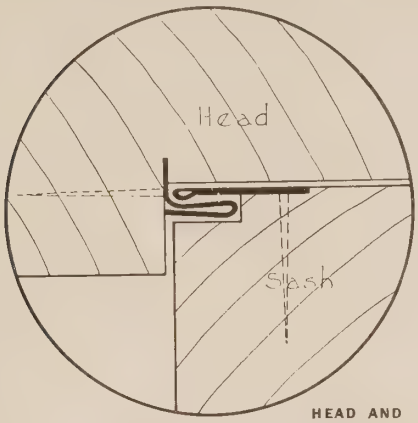
All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 200-B, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top and Latch Side of frame shall be equipped with a strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop; top and latch side of sash shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash in such a manner so as to interlock with strip on frame.

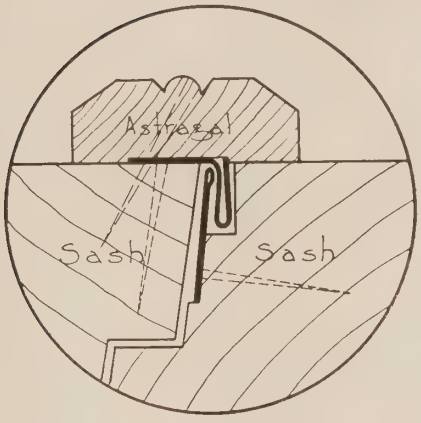
Center of Double Casement—Outside edge of active leaf shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and nailed 1 inch apart. Outside face of inactive leaf shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and nailed 2½ inches apart to interlock with strip on active leaf when sash are closed. Outside face of inactive leaf shall be equipped with a flat, wooden astragal securely nailed to overlap the center when sash are closed.

Hinge Side shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and shall enter a groove ⅛-inch wide x ⅜-inch deep ploughed in edge of stile, ⅜-inch from face of sash to

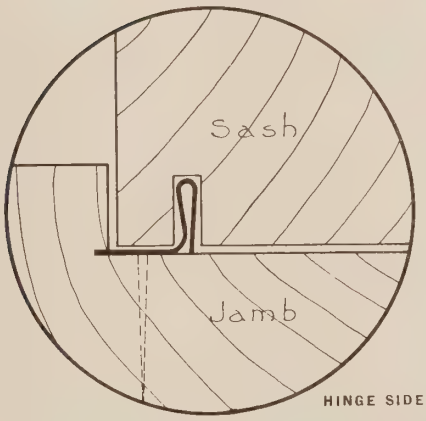
Full-Size Details —Weather Strip Gauges — Equipment No. 200-B



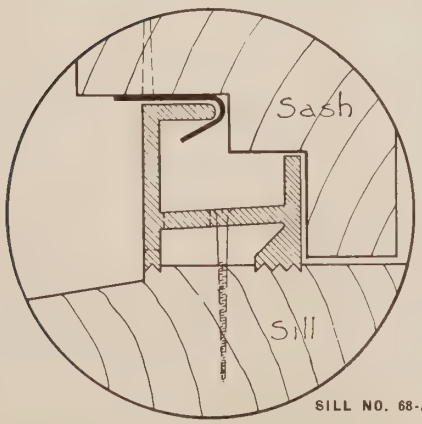
HEAD AND LATCH SIDE



CENTER



HINGE SIDE



SILL NO. 68-A

ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	5 male 21	9 10	.018 .020
Hinge side	21	10	.020
Latch side	5 male 21	9 10	.018 .020
Sill	68A	Extruded Brass	
Sill, hook member	5	12	.028

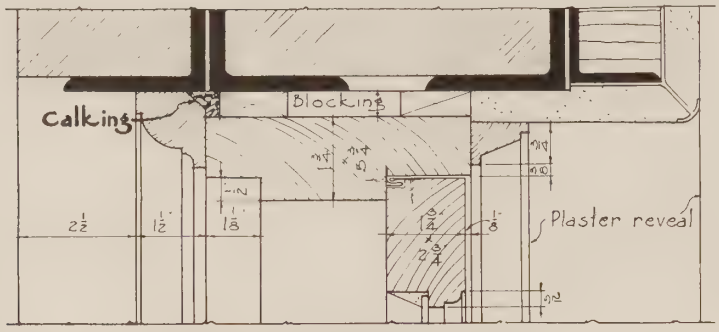
COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	5 male 21	25 25	.0179 .0179
Hinge side	21	25	.0179
Latch side	5 male 21	25 25	.0179 .0179
Sill	68A	Extruded Brass	
Sill, hook member	5	23	.0225

center of groove. Flange of strip shall enter kerf in stop and shall be securely nailed 2 inches apart to frame.

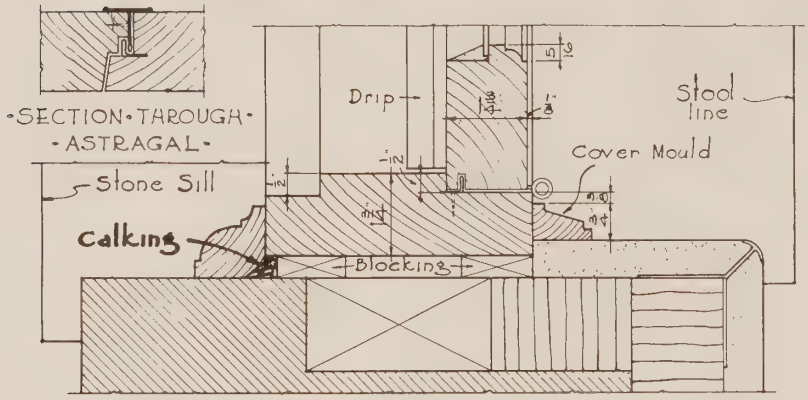
Bottom Edge of lower sash rail shall be rabbeted to receive a hook strip .028-inch thick .(0225), securely nailed 1½ inches apart; sill of frame shall be equipped with super-posed, extruded brass double-channel, securely screwed to sill 2½ inches from jambs and approximately 4 inches apart between these two points. Channels shall contain rectangular weep holes and shall interlock with hook strip when sash are closed. To outside face of bottom edge of lower sash rail wooden rain drips shall be securely screwed and placed in position so as to clear sill equipment when sash are opened and closed.

Chamberlin Equip't No. 200-C — In-Opening Casement Windows

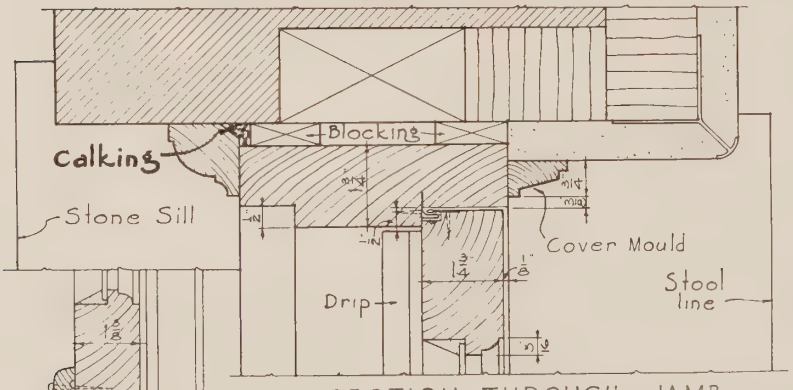
Interlocking with Metal Astragal and Channel



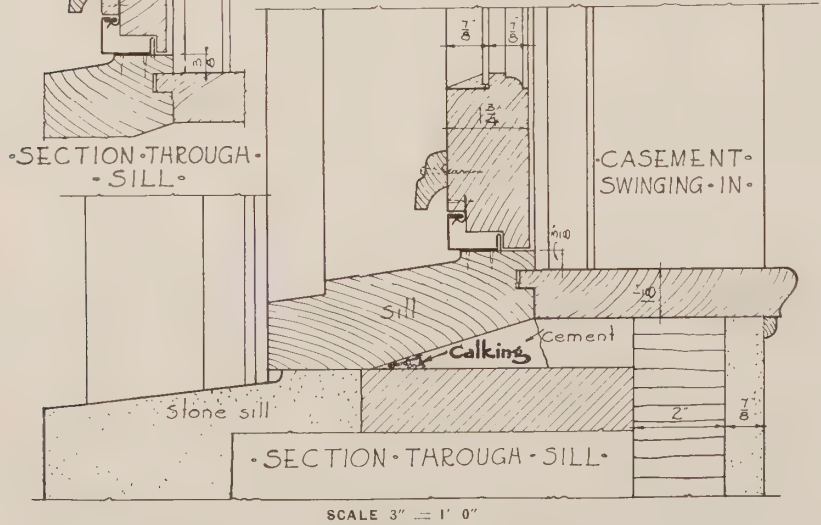
·SECTION·THROUGH·HEAD·



·SECTION·THROUGH·JAMB·
·ON·HINGE·SIDE·



·SECTION·THROUGH·JAMB·



·SECTION·THROUGH·SILL·

SCALE 3" = 1' 0"

General Specification

All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 200-C, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

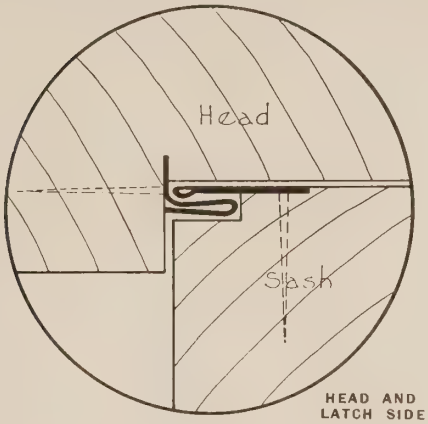
All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 200-C, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top and Latch Side of frame shall be equipped with a strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop; top and latch side of sash shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash in such a manner so as to interlock with strip on frame.

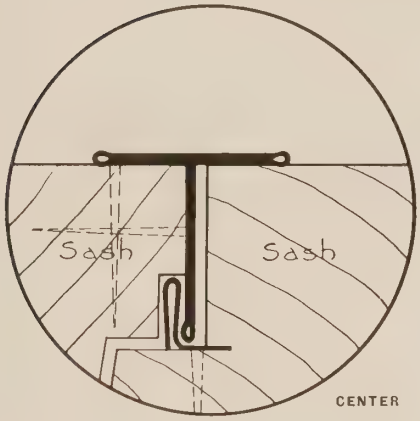
Center of Double Casement shall be equipped with a combination "T"-shaped metal astragal securely nailed 1½ inches apart to outside face of stile of inactive sash. A one-piece strip .020-inch thick (.0179), having beaded-edge sealing rib extending ⅜-inch at right angles to base shall be set in rabbet, base to enter kerf in sash rail, and shall be securely nailed 2½ inches apart to stile in such a manner as to interlock with meta astragal making sealing joint when sash are closed.

Hinge Side shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and shall enter a groove ⅛-inch wide x ⅜-inch deep ploughed in edge of stile, ⅜-inch from face of sash to center of groove. Flange of strip shall enter kerf in stop and shall

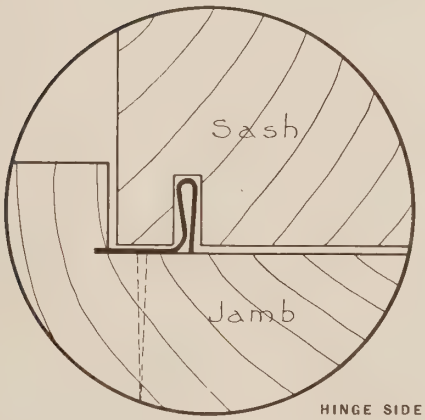
Full-Size Details —Weather Strip Gauges — Equipment No. 200-C



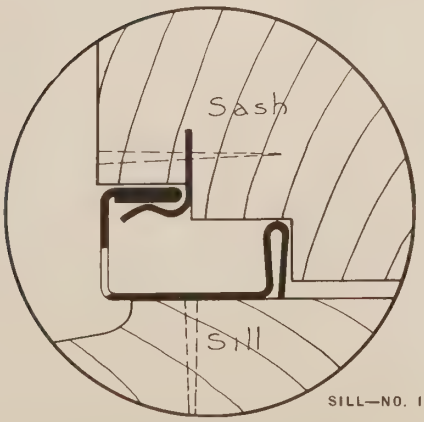
HEAD AND LATCH SIDE



CENTER



HINGE SIDE



SILL—NO. 18

ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	20 21	10 10	.020 .020
Hinge side	21	10	.020
Latch side	5 male 21	9 10	.018 .020
Sill	18	12	.028
Sill, hook member	19	12	.028

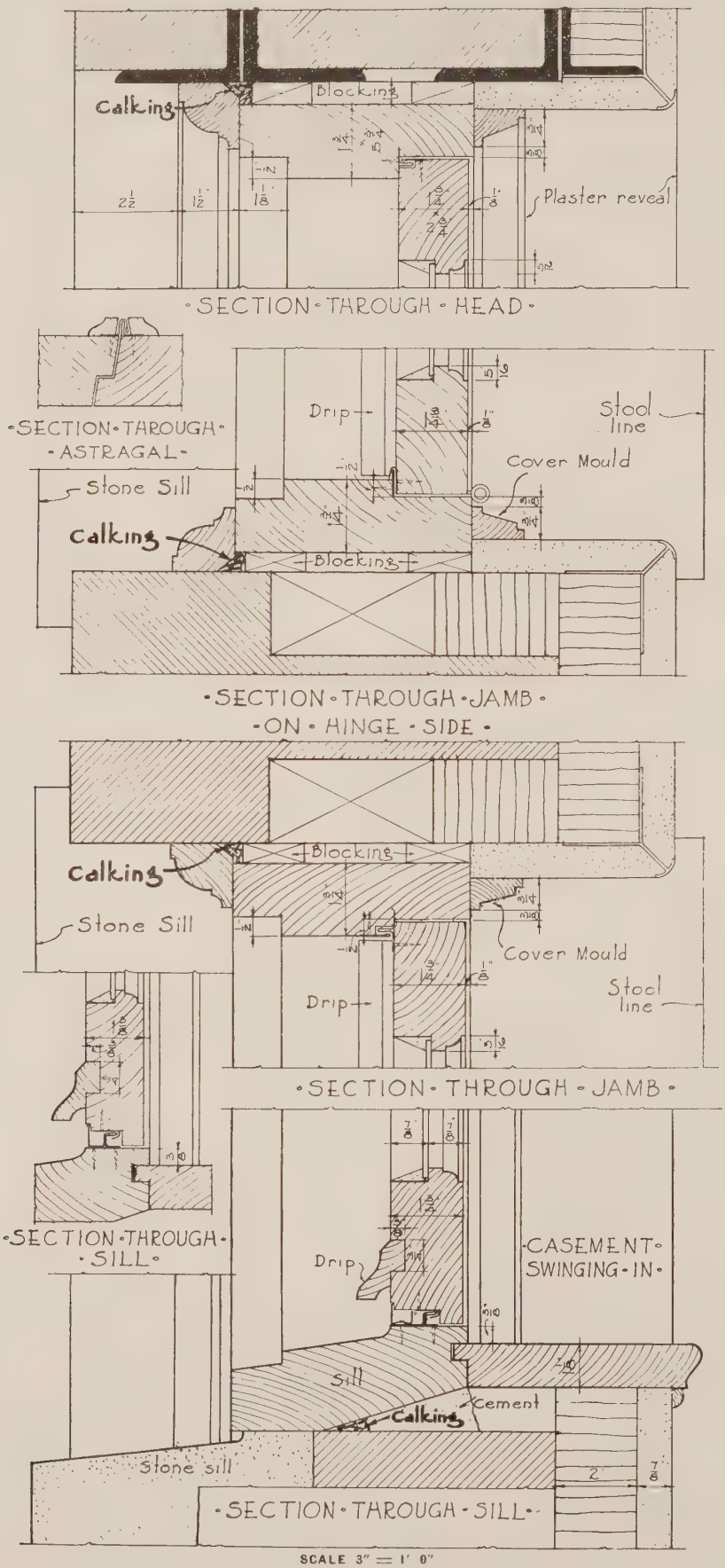
COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	20 21	25 25	.0179 .0179
Hinge side	21	25	.0179
Latch side	5 male 21	25 25	.0179 .0179
Sill	18	23	.0225
Sill, hook member	19	23	.0225

be securely nailed 2 inches apart to frame.

Bottom Edge of lower sash rail shall be rabbeted to receive a hook strip .028-inch thick (.0225); base shall enter kerf in sash and be securely nailed 2 inches apart; sill of frame shall be equipped with a No. 18 single-channel .028-inch thick (.0225), securely nailed to sill 1 inch apart. Channel shall contain rectangular weep holes and shall interlock with hook strip when sash are closed. To outside face of bottom edge of lower sash rail wooden rain drips shall be securely screwed and placed in position so as to clear sill equipment when sash are opened and closed.

Chamberlin Equip't No. 300 — In-Opening Casement Windows

Outside Interlocking with Channel



General Specification

All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 300, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

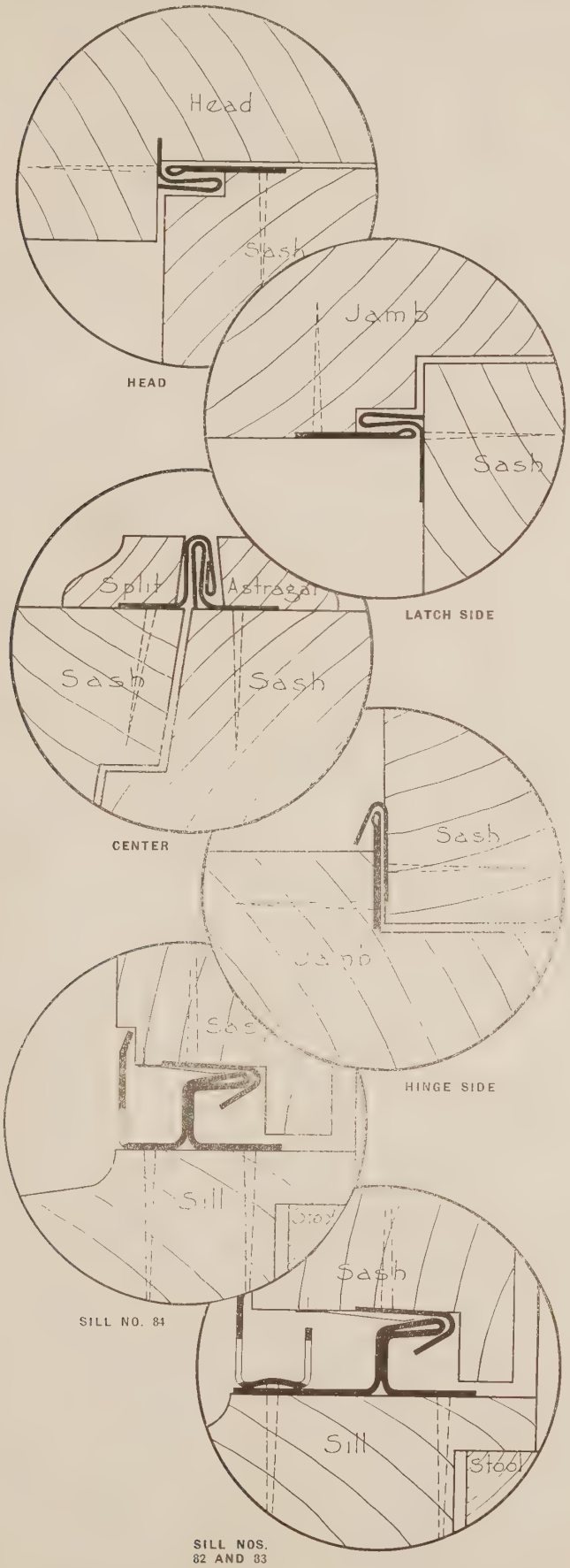
All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 300, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top of Frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop. Top of sash shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash in such a manner as to interlock with strip on frame when sash are closed.

Latch Side of frame shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart; latch side of sash shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, securely nailed 2 inches apart to interlock with strip on frame.

Center of Double Casement— Outside face of inactive leaf shall have a one-piece strip .028-inch thick (.0225) with open rib extending ⅜-inch at right angles to base, base to be nailed 2½ inches apart; edge of rib metal folded back on itself. Outside face of active leaf shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and nailed 2½ inches apart to interlock with strip on inactive leaf when sash are closed. Outside face of both

Full-Size Details—Weather Strip Gauges—Equipment No. 300



ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	4A hook 21	12 10	.028 .020
Hinge side	5 male 5 hook	9 12	.018 .028
Latch side	5 male 21	9 10	.018 .020
Sill, 1⅜″ sash	84	13	.032
Sill, 1¾″ sash	82 83	13 14	.032 .036
Sill, hook member	5	12	.028

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	4A hook 21	23 25	.0225 .0179
Hinge side	5 male 5 hook	25 23	.0179 .0225
Latch side	5 male 21	25 25	.0179 .0179
Sill, 1⅜″ sash	84	20	.0319
Sill, 1¾″ sash	82 83	20 20	.0319 .0319
Sill, hook member	5	23	.0225

active and inactive leaves shall be equipped with a flat, wooden split astragal securely nailed to sash so as to fully protect the weather strip member.

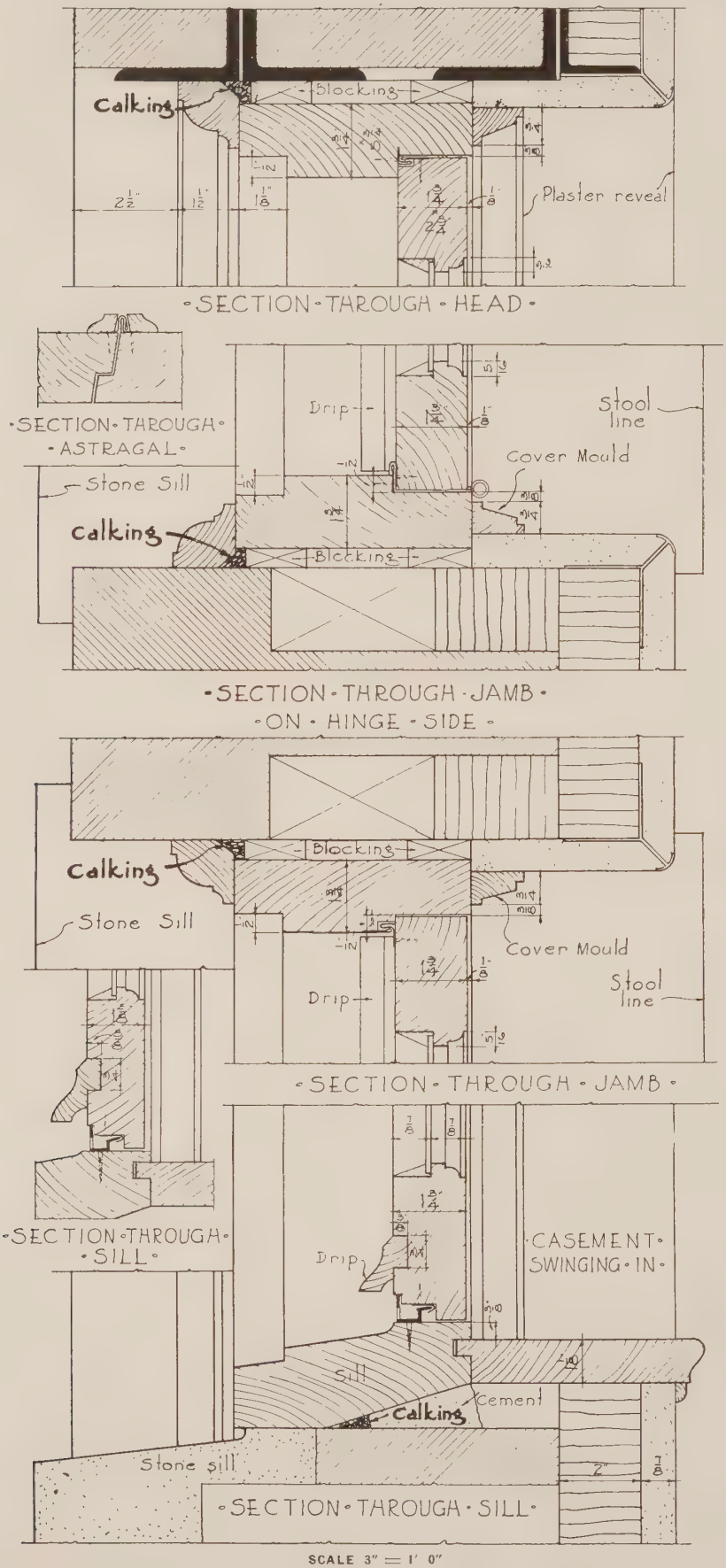
Hinge Side shall have male and female members, male member to be .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to stop; female member .028-inch thick (.0225) shall be set in rabbet on outside face of sash and securely nailed 1½ inches apart; male and female member shall interlock when sash are closed.

Bottom Edge of lower sash rail shall be rabbeted to receive a hook strip .028-inch thick (.0225), securely nailed 1½ inches apart; sill of frame shall be equipped with single-channel strip for sash 1⅜ inches in thickness; inside flange of base nailed 1 inch apart and 2 inches apart in the channel. When sash are 1¾ inches or more in thickness sill of frame shall be equipped with a double-channel strip, inside flange nailed 1 inch apart and 2 inches apart in the channel. Channels shall contain rectangular weep holes and shall interlock with hook strip when sash are closed. To bottom edge of lower sash rail a flexible, spring bronze insert shall be securely nailed 1 inch apart so as not to extend beyond lip of sill member and to form a sealing contact with it when sash are closed. To outside face of bottom edge of lower sash rail wooden rain drips shall be securely screwed and placed in position so as to clear sill equipment when sash are opened and closed.

A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 300-A—In-Opening Casement Windows

Outside Interlocking with Extruded Brass Channel



General Specification

All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 300-A, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

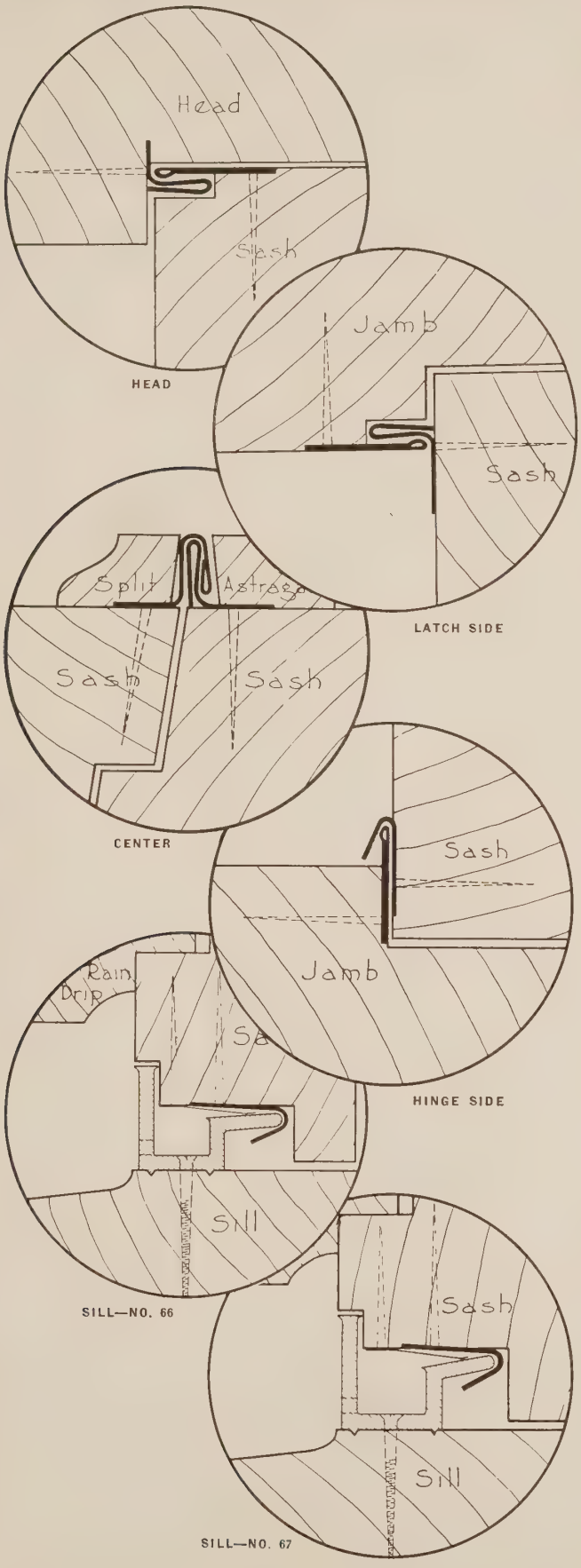
All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 300-A, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top of Frame shall be equipped with strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop. Top of sash shall be rabbeted to receive a one-piece strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash in such a manner as to interlock with strip on frame when sash are closed.

Latch Side of frame shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart; latch side of sash shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, securely nailed 2 inches apart to interlock with strip on frame.

Center of Double Casement—Outside face of inactive leaf shall have a one-piece strip .028-inch thick (.0225) with open rib extending ⅜-inch at right angles to base, base to be nailed 2½ inches apart; edge of rib metal folded back on itself. Outside face of active leaf shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and nailed 2½ inches apart to interlock with strip on inactive leaf when sash are closed. Outside face of both active and inactive leaves shall

Full-Size Details — Weather Strip Gauges — Equipment No. 300-A



ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	4A hook 21	12 10	.028 .020
Hinge side	5 male 5 hook	9 12	.018 .028
Latch side	5 male 21	9 10	.018 .020
Sill, 1⅜″ sash	66	Extruded Brass	
Sill, 1¾″ sash	67	Extruded Brass	
Sill, hook member	5	12	.028

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	4A hook 21	23 25	.0225 .0179
Hinge side	5 male 5 hook	25 23	.0179 .0225
Latch side	5 male 21	25 25	.0179 .0179
Sill, 1⅜″ sash	66	Extruded Brass	
Sill, 1¾″ sash	67	Extruded Brass	
Sill, hook member	5	23	.0225

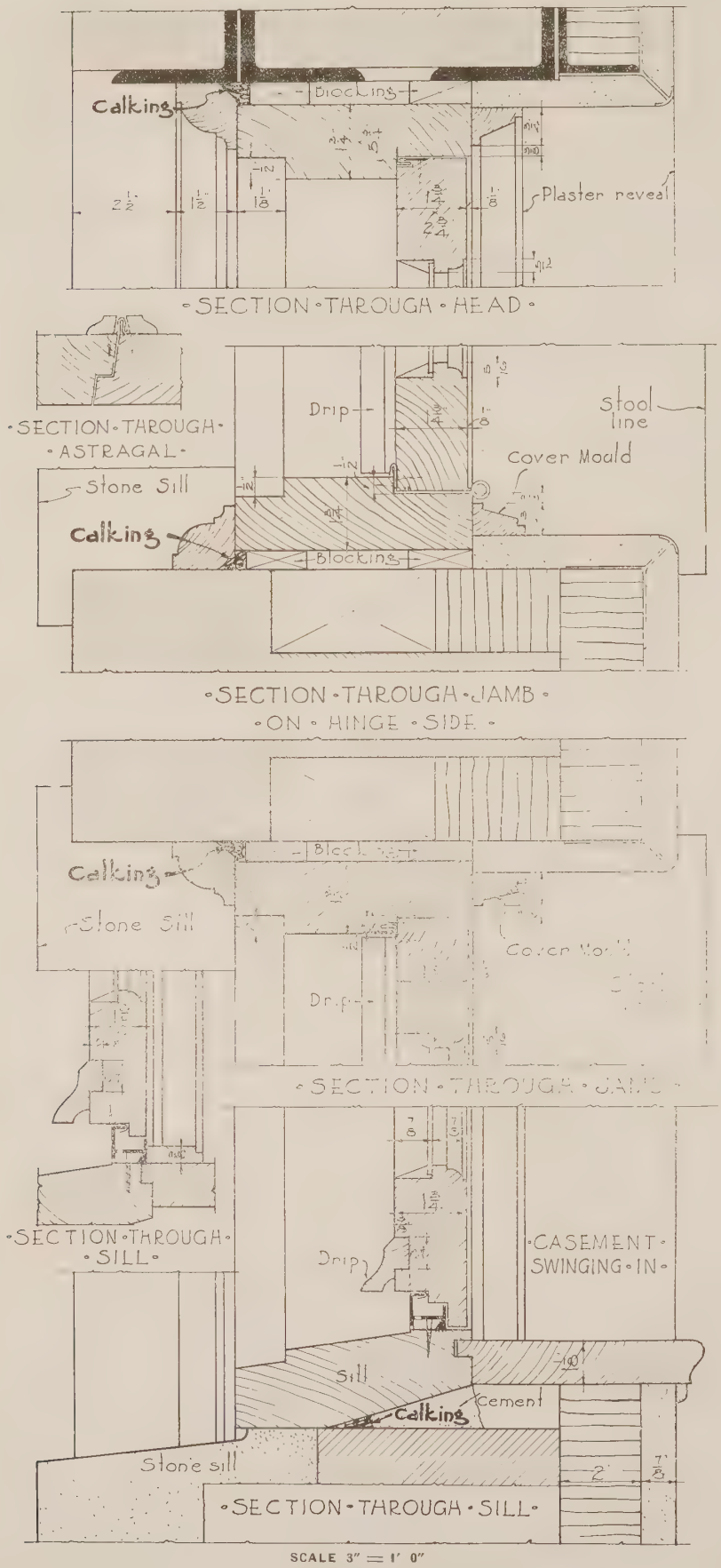
be equipped with a flat, wooden, split astragal securely nailed to sash so as to fully protect the weather strip member.

Hinge Side shall have male and female members, male member to be .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to stop; female member .028-inch thick (.0225) shall be set in rabbet on outside face of sash and securely nailed 1½ inches apart; male and female member shall interlock when sash are closed.

Bottom Edge of lower sash rail shall be rabbeted to receive hook strip .028-inch thick (.0225), securely nailed 1½ inches apart; sill of frame shall be equipped with single-channel extruded brass strip screwed to sill 2½ inches from jambs and approximately 4 inches apart between these two points. Channels shall contain rectangular weep holes and shall interlock with hook strip when sash are closed. To bottom edge of lower sash rail a flexible, spring bronze insert shall be securely nailed 1 inch apart so as not to extend beyond lip of sill member and to form a sealing contact with it when sash are closed. To outside face of bottom edge of lower sash rail wooden rain drips shall be securely screwed and placed in position so as to clear sill equipment when sash are opened and closed.

Chamberlin Equip't No. 300-B — In-Opening Casement Windows

Outside Interlocking with Extruded Brass Double-Trough Channel



General Specification

All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 300-B, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

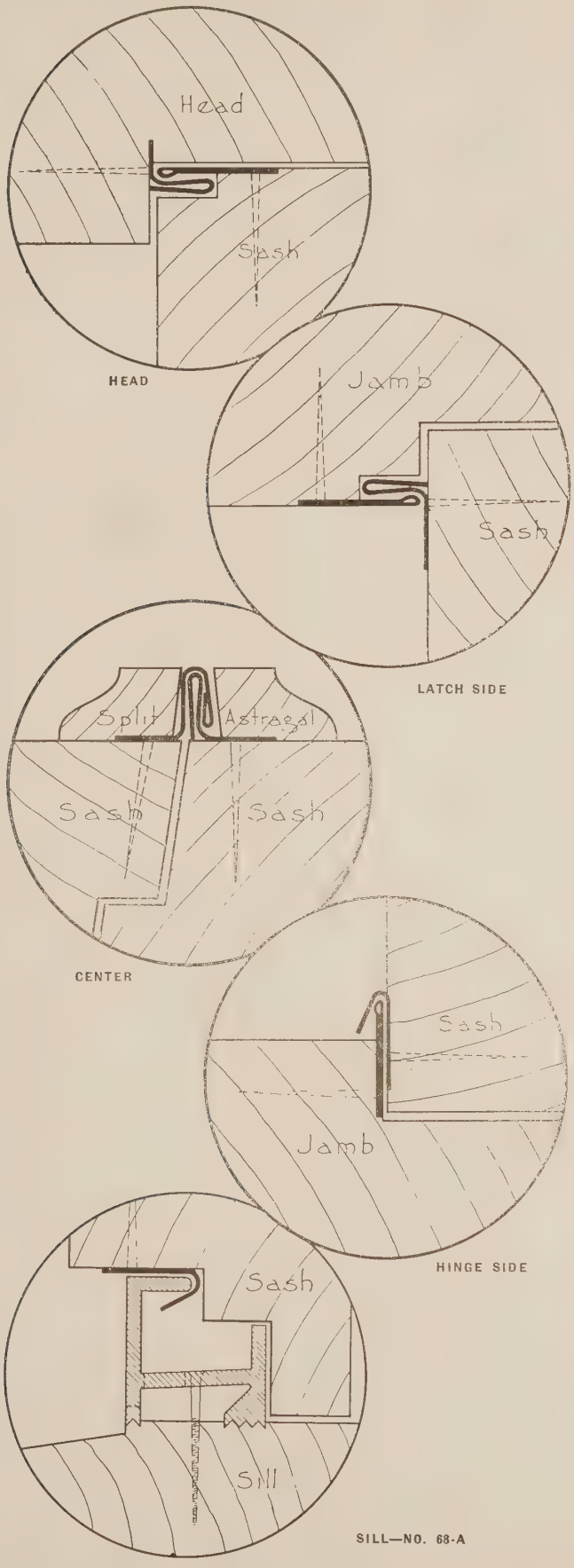
All in-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 300-B, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top of Frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop. Top of sash shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash in such a manner as to interlock with strip on frame when sash are closed.

Latch Side of frame shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart; latch side of sash shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, securely nailed 2 inches apart to interlock with strip on frame.

Center of Double Casement— Outside face of inactive leaf shall have a one-piece strip .028-inch thick (.0225) with open rib extending ⅜-inch at right angles to base, base to be nailed 2½ inches apart; edge of rib metal folded back on itself. Outside face of active leaf shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and nailed 2½ inches apart to interlock with strip on inactive leaf when sash are closed. Outside face of both

Full-Size Details—Weather Strip Gauges—Equipment No. 300-B



ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 020
Center	4A hook 21	12 10	.028 .020
Hinge side	5 male 5 hook	9 12	.018 028
Latch side	5 male 21	9 10	.018 .020
Sill	68A	Extruded Brass	
Sill, hook member	5	12	.028

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 0179
Center	4A hook 21	23 25	.0225 .0179
Hinge side	5 male 5 hook	25 23	.0179 .0225
Latch side	5 male 21	25 25	.0179 .0179
Sill	68A	Extruded Brass	
Sill, hook member	5	23	.0225

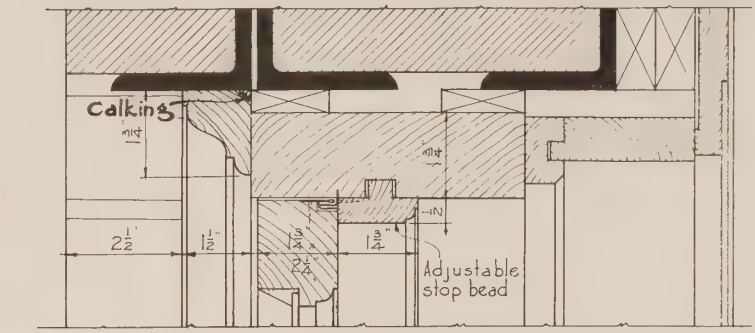
active and inactive leaves shall be equipped with a flat, wooden, split astragal securely nailed to sash so as to fully protect the weather strip member.

Hinge Side shall have male and female members, male member to be .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to stop; female member .028-inch thick (.0225) shall be set in rabbet on outside face of sash and securely nailed 1½ inches apart; male and female member shall interlock when sash are closed.

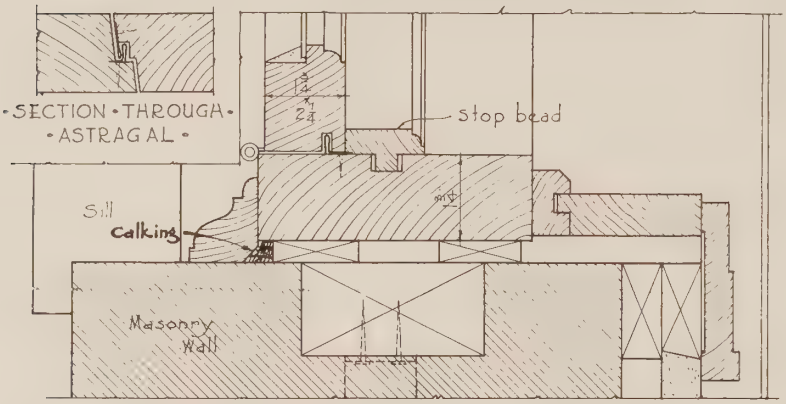
Bottom Edge of lower sash rail shall be rabbeted to receive a hook strip .028-inch thick (.0225), securely nailed 1½ inches apart; sill of frame shall be equipped with a super-posed extruded brass double-channel, securely screwed to sill 2½ inches from jambs and approximately 4 inches apart between these two points. Channels shall contain rectangular weep holes and shall interlock with hook strip when sash are closed. To outside face of bottom edge of lower sash rail wooden rain drips shall be securely screwed and placed in position so as to clear sill equipment when sash are opened and closed.

Chamberlin Equip't No. 500 — Out-Opening Casement Windows

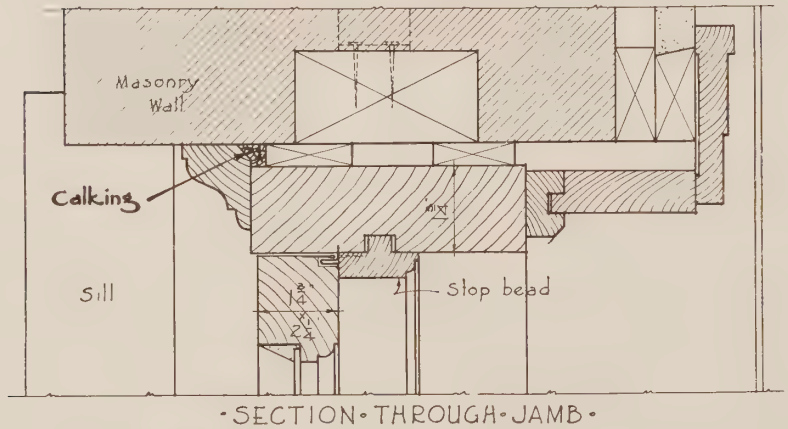
Interlocking with Brass Sill



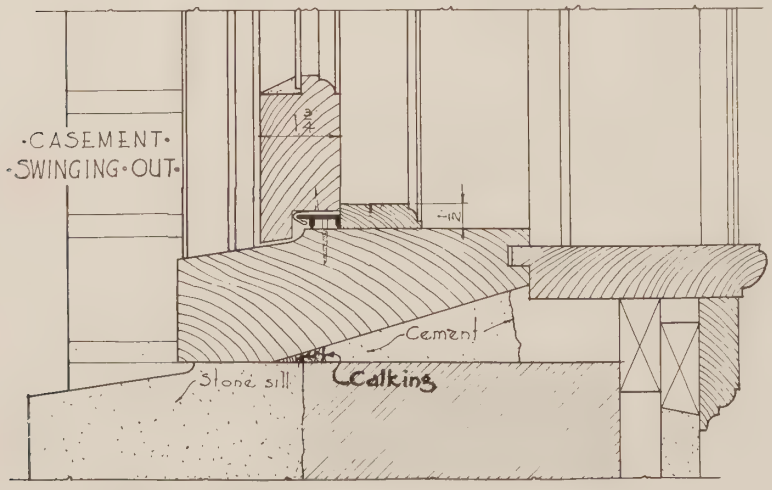
·SECTION·THROUGH·HEAD·&·UPPER·RAIL·



·SECTION·THROUGH·JAMB·ON·HINGE·SIDE·



·SECTION·THROUGH·JAMB·



·SECTION·THROUGH·SILL·

SCALE 3" = 1' 0"

General Specification

All out-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 500, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

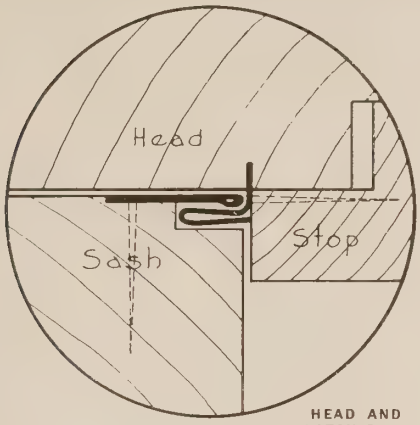
All out-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 500, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top and Latch Side of frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop; top and latch side of sash shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash to interlock with strip on frame, making sealing joint when sash are closed.

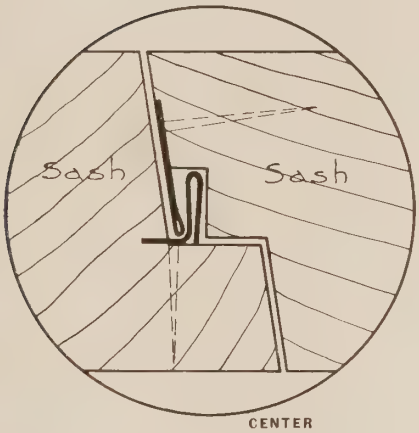
Center of Double Casement— Edge of center sash rail of active leaf shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to interlock with strip set in rabbet on center sash rail of inactive leaf; edge of center sash rail of inactive leaf shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, base to enter kerf in sash rail and be securely nailed 2½ inches apart.

Hinge Side shall be equipped with a one-piece strip .020-inch thick having beaded-edge sealing rib extending ⅜-inch at right angles to base and shall enter a groove ⅛-inch wide x ⅜-inch deep ploughed in edge of stile, ⅜-inch from face of sash to center of groove. Base of strip shall

Full-Size Details — Weather Strip Gauges — Equipment No. 500



HEAD AND LATCH SIDE



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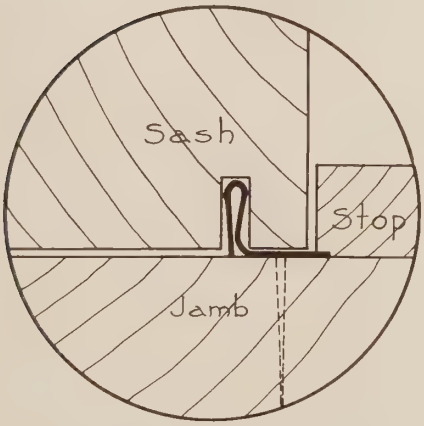
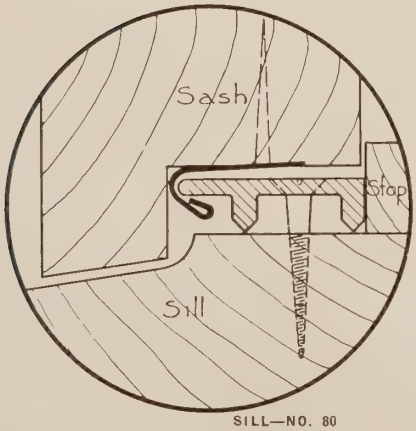


HINGE SIDE



SILL—NO. 80

ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	5 male 21	9 10	.018 .020
Hinge side	21	9	.018
Latch side	5 male 21	9 10	.018 .020
Sill	80	Extruded Brass	
Sill, hook member	26 hook	12	.028

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	5 male 21	25 25	.0179 .0179
Hinge side	21	25	.0179
Latch side	5 male 21	25 25	.0179 .0179
Sill	80	Extruded Brass	
Sill, hook member	26 hook	23	.0225

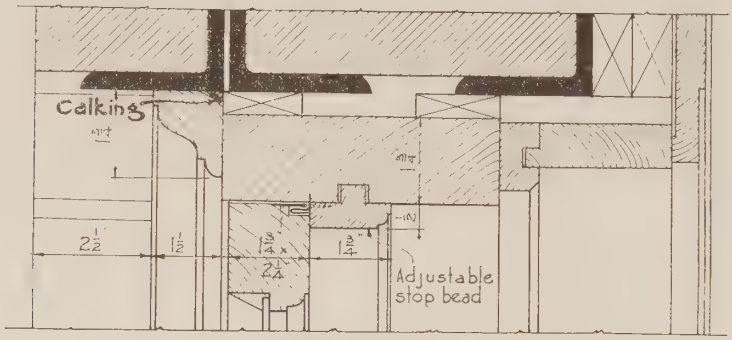
enter kerf in stop and shall be securely nailed 2 inches apart to frame.

Bottom Edge of lower sash rail shall be rabbeted to receive a hook strip .028-inch thick (.0225) securely nailed 1 inch apart; sill of frame shall be equipped with a No. 80 extruded brass strip securely screwed to sill 2½ inches from jambs and approximately 4 inches apart between these two points in such a manner as to interlock with hook strip when sash are closed.

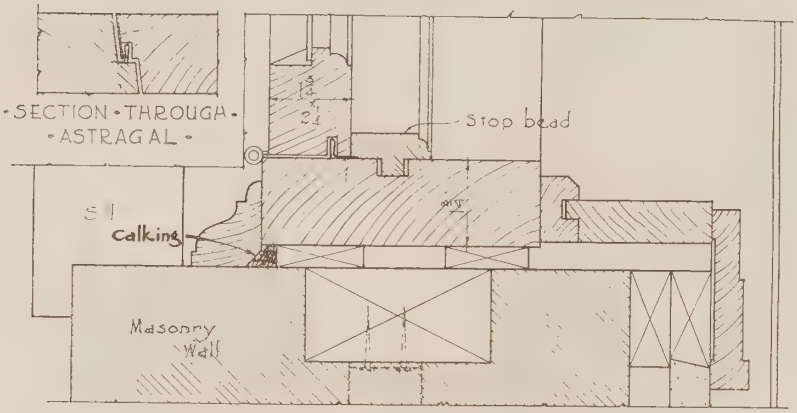
A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 500-A—Out-Opening Casement Windows

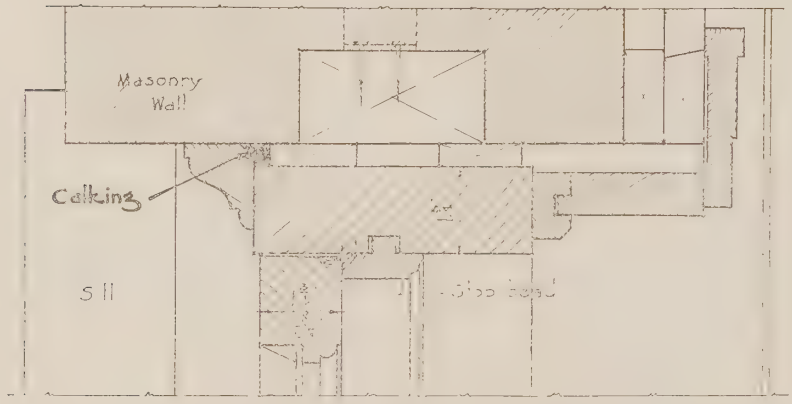
Interlocking



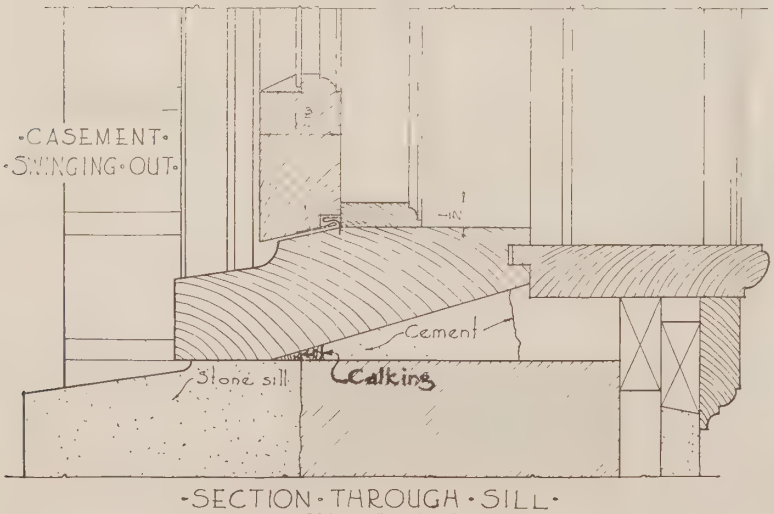
·SECTION·THROUGH·HEAD·&·UPPER·RAIL·



·SECTION·THROUGH·JAMB·ON·HINGE·SIDE·



·SECTION·THROUGH·JAMB·



·SECTION·THROUGH·SILL·

SCALE 3" = 1' 0"

General Specification

All out-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 500-A, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

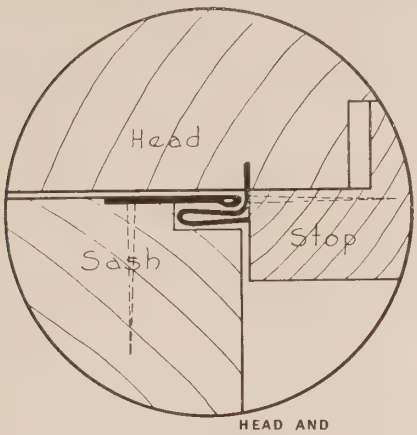
Specific Specification

All out-opening wood casement windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 500-A, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

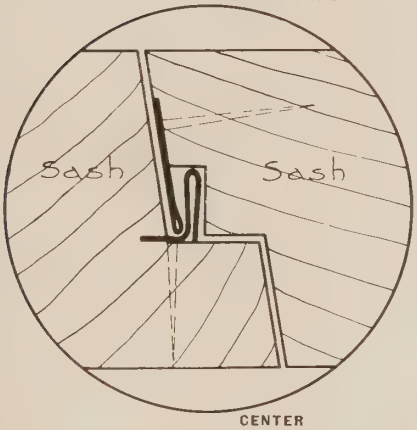
Top and Latch Side of Frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and be securely nailed 2 inches apart to stop. Top and latch side of sash shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to sash to interlock with strip on frame, making sealing joint when sash are closed.

Center of Double Casement—Edge of center sash rail of active leaf shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to interlock with strip set in rabbet on center sash rail of inactive leaf; edge of center sash rail of inactive leaf shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, base to enter kerf in sash rail and be securely nailed 2½ inches apart.

Full-Size Details — Weather Strip Gauges — Equipment No. 500-A



HEAD AND LATCH SIDE



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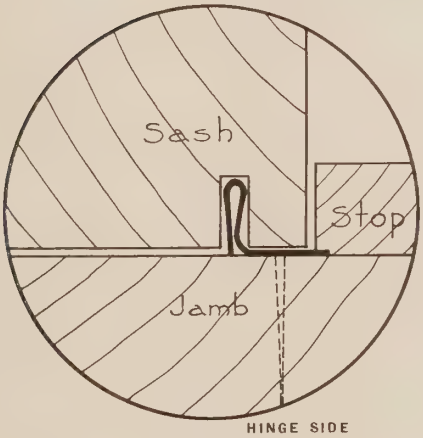
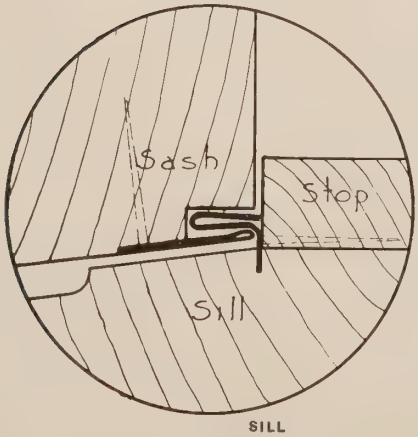


HINGE SIDE



SILL

ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	5 male 21	9 10	.018 .020
Hinge side	21	9	.018
Latch side	5 male 21	9 10	.018 .020
Sill	5 male 21	9 10	.018 .020

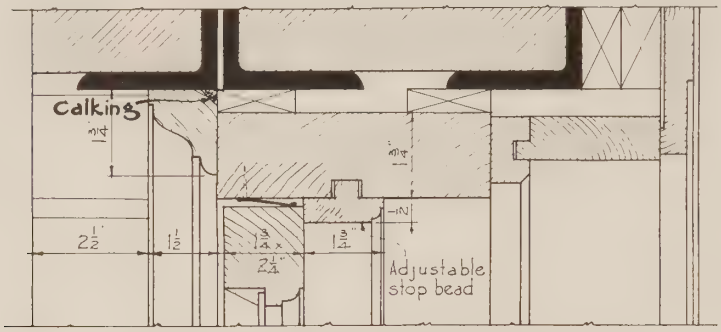
COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	5 male 21	25 25	.0179 .0179
Hinge side	21	25	.0179
Latch side	5 male 21	25 25	.0179 .0179
Sill	5 male 21	25 25	.0179 .0179

Hinge Side shall be equipped with a one-piece strip .020-inch thick having beaded-edge sealing rib extending $\frac{3}{8}$-inch at right angles to base and shall enter a groove $\frac{1}{8}$-inch wide x $\frac{3}{8}$-inch deep ploughed in edge of stile, $\frac{3}{8}$-inch from face of sash to center of groove. Base of strip shall enter kerf in stop and shall be securely nailed 2 inches apart to frame.

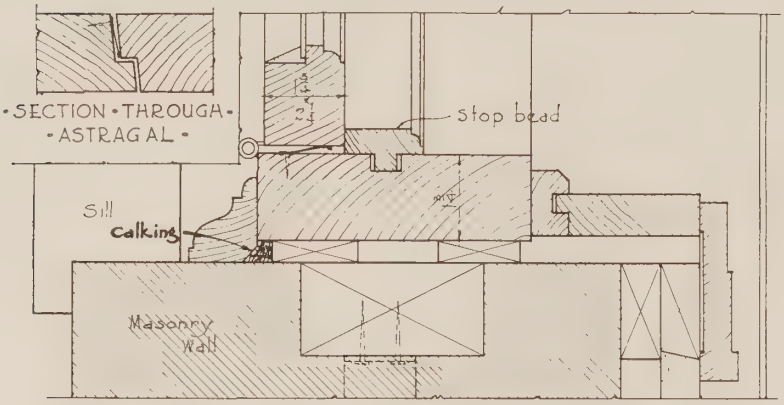
Bottom Edge of lower sash rail shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart. Sill of frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending $\frac{3}{8}$-inch at right angles to base; base shall enter kerf in sill and be securely nailed 2 inches apart to stool to interlock with strip on sash when sash are closed.

Chamberlin Equip't No. 500-B—Out-Opening Casement Windows

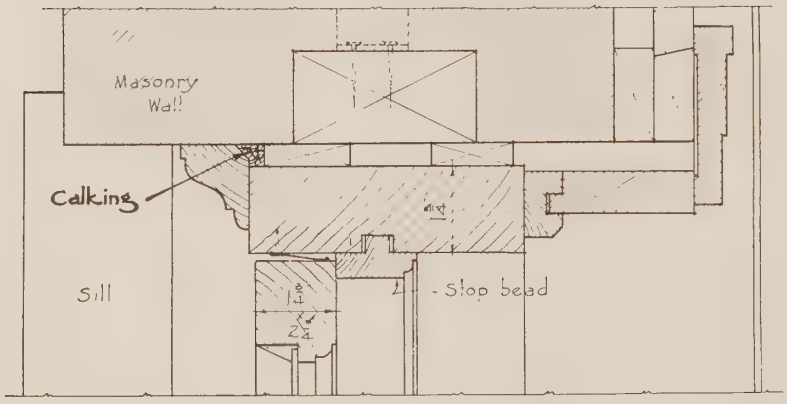
Spring Bronze



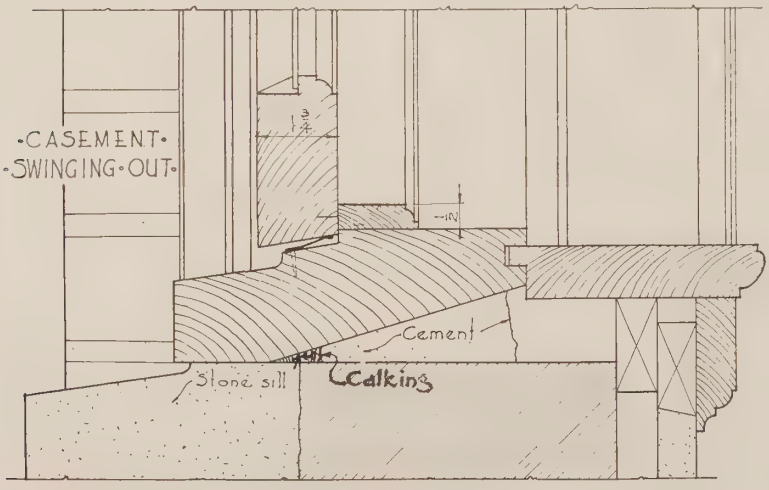
·SECTION·THROUGH·HEAD·&·UPPER·RAIL·



·SECTION·THROUGH·JAMB·ON·HINGE·SIDE·



·SECTION·THROUGH·JAMB·



·SECTION·THROUGH·SILL·

SCALE 3" = 1' 0"

General Specification

All out-opening wood casement windows shall be equipped with Chamberlin hemmed-edge, flexible, spring bronze, Type 500-B, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

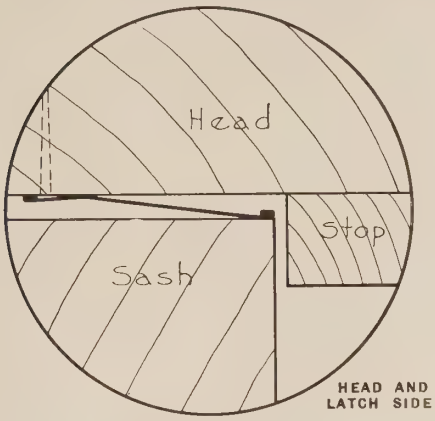
Specific Specification

All out-opening wood casement windows shall be equipped with Chamberlin hemmed-edge, flexible, spring bronze, Type 500-B, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

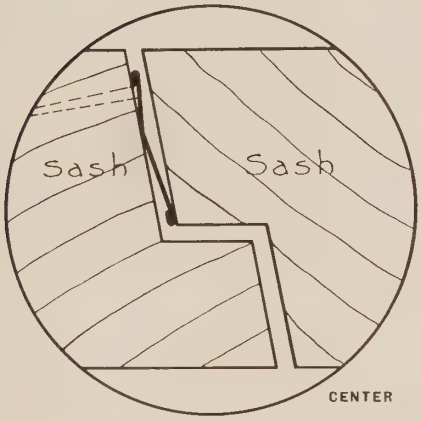
Top, Sides and Sill of frame shall be equipped with hemmed-edge, spring bronze securely nailed 1 inch apart to frame; spring bronze to be in rabbet to within 1/16-inch of stop and sprung so as to touch edges of sash when sash are closed.

Center of Double Casement—Edge of center sash rail of inactive leaf shall be equipped with hemmed-edge, spring bronze securely nailed 1 inch apart; spring bronze to set in outside rabbet if width of rabbet permits and sprung so as to touch edge of active leaf when sash are closed.

Full-Size Details —Weather Strip Gauges — Equipment No. 500-B



HEAD AND LATCH SIDE



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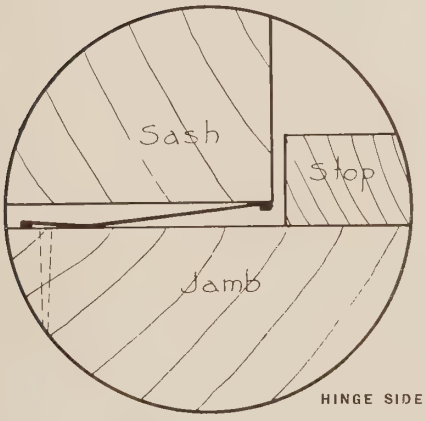
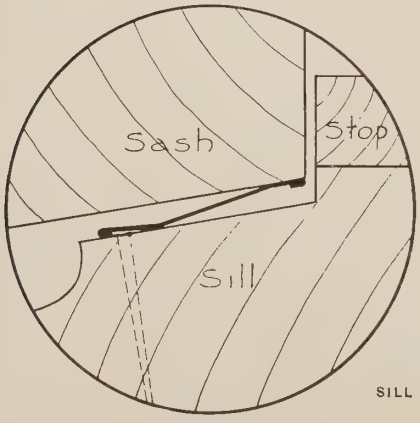


HINGE SIDE



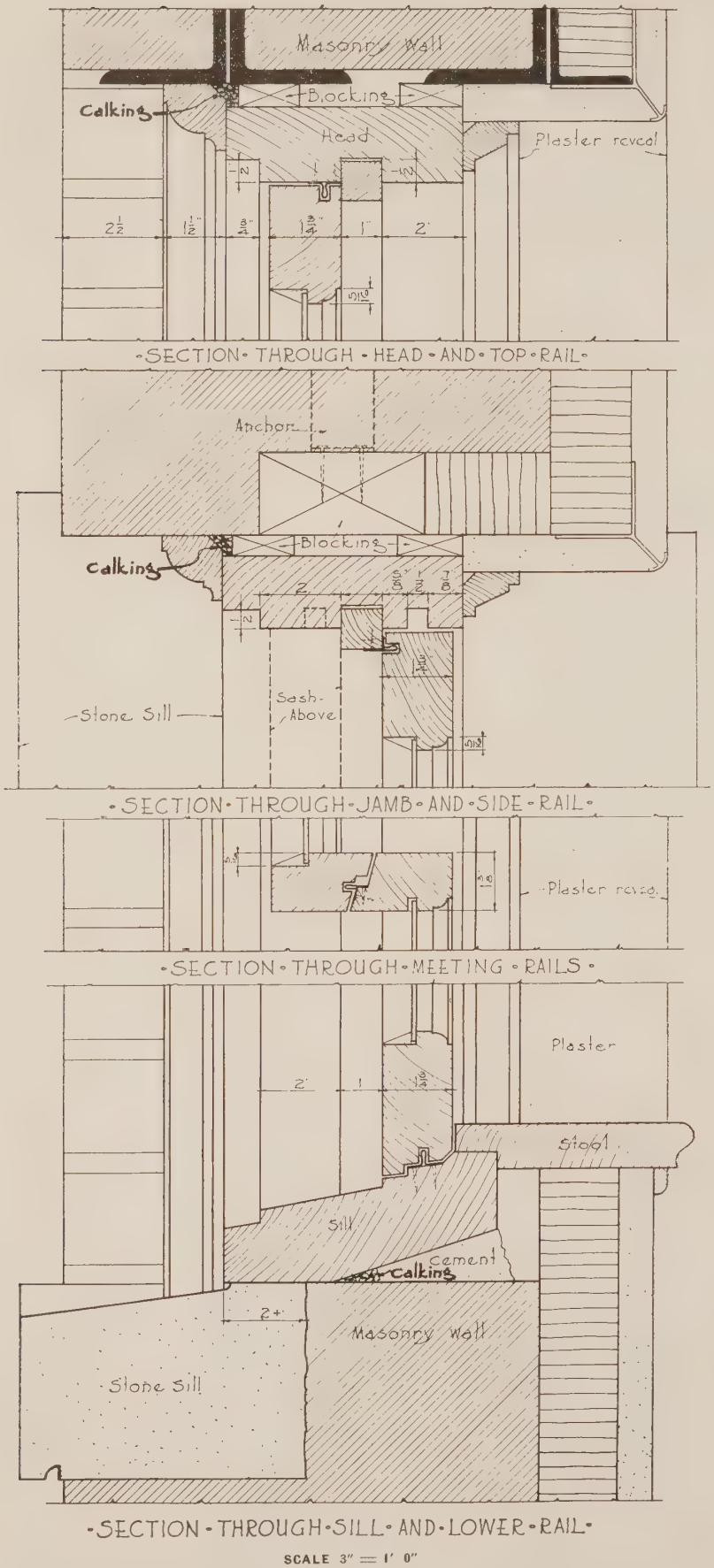
SILL

1⅜" SASH			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	102	31	.0089
Center	102	31	.0089
Hinge side	102	31	.0089
Latch side	102	31	.0089
Sill	102	31	.0089

1¾" SASH			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	104	31	.0089
Center	104	31	.0089
Hinge side	104	31	.0089
Latch side	104	31	.0089
Sill	102	31	.0089

A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 600 — Austral Windows



General Specification

All Austral wood windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 600, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

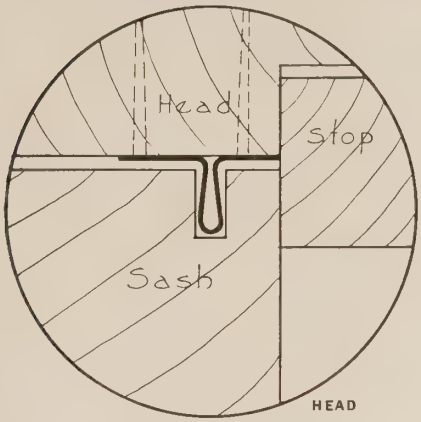
All Austral wood windows shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 600, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Head and Sill shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, set to enter a groove ⅛-inch wide x ⅜-inch deep ploughed in edges of rails. Bases of head and sill strip shall be securely nailed 3 inches apart to window frame. Groove in edge of top rail shall be ⅜-inch from inside face of sash measuring to center of groove; groove in edge of bottom rail to be in center of sash rail.

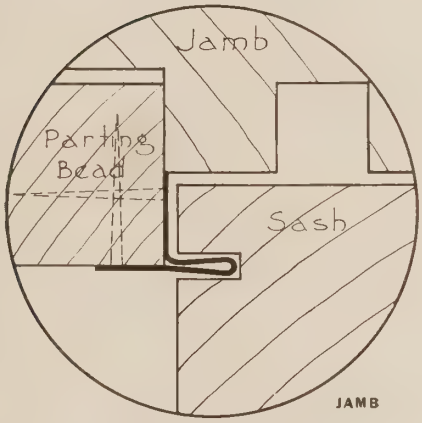
Sides shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, set to enter a groove ⅛-inch wide x ⅜-inch deep ploughed in face of sash stiles nearest to parting bead. Bases of strip shall be securely nailed 2 inches apart to stop. Groove shall be ½-inch from edge of sash ploughed in face of sash nearest to parting bead; groove to coincide with the perpendicular line of the parting bead.

Meeting Rails shall have a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base, bases to be securely nailed 2½ inches apart so that rib will enter a groove on the inside face of the lower rail of upper sash. Groove shall be ⅛-inch wide x ⅜-inch deep.

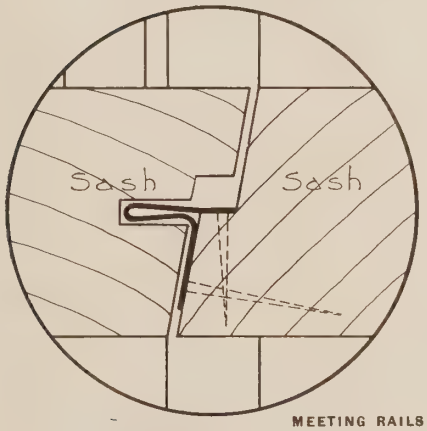
Full-Size Details — Weather Strip Gauges — Equipment No. 600



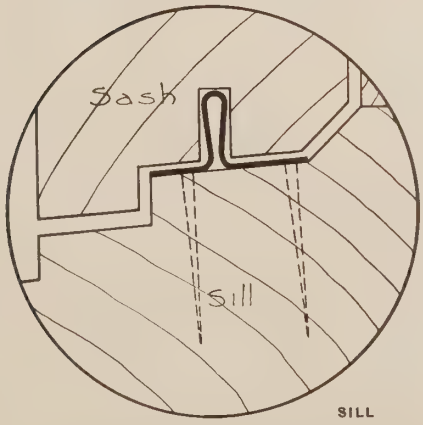
HEAD



JAMB



MEETING RAILS



SILL

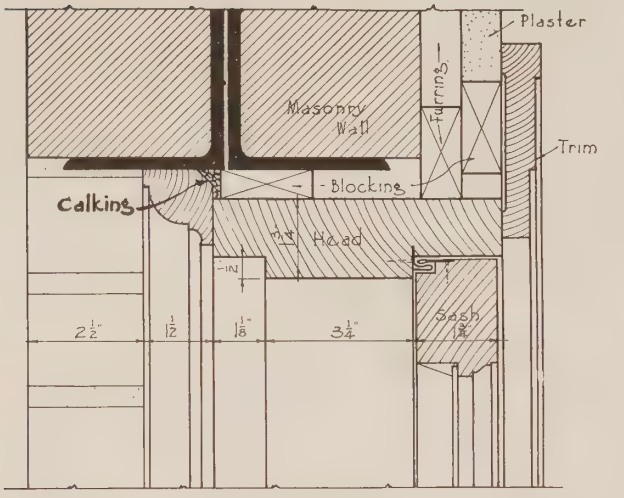
ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	6	10	.020
Sides	25	10	.020
Sides, alternate	5 male 5 hook	9 12	.018 .028
Meeting rails	25	10	.020
Sill	6	10	.020

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	6	25	.0179
Sides	25	25	.0179
Sides, alternate	5 male 5 hook	25 23	.0179 .0225
Meeting rails	25	25	.0179
Sill	6	25	.0179

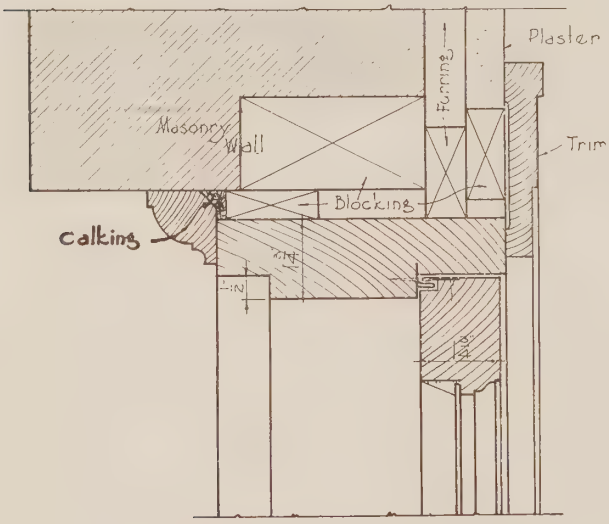
A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 700 — Outside Transom Windows

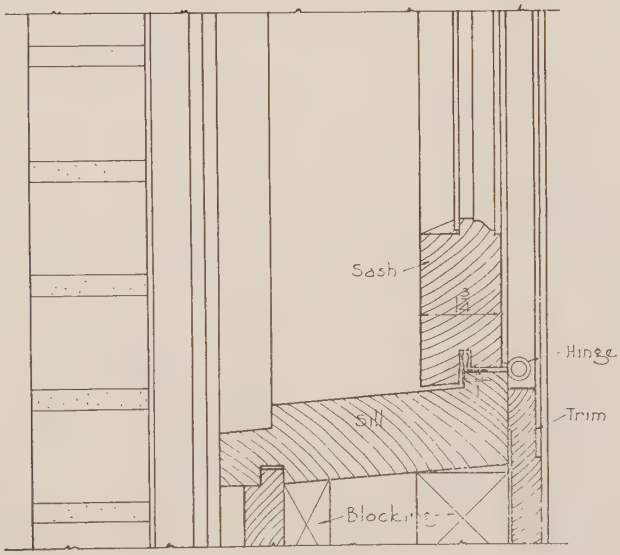
Interlocking



·SECTION · THROUGH · HEAD·



·SECTION · THROUGH · JAMB·



·SECTION · THROUGH · SILL ·
·AND · TRANSOM · BAR ·
SCALE 3" = 1' 0"

General Specification

All outside wood transoms shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 700, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

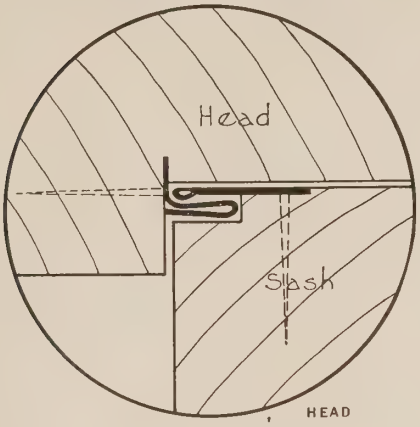
Specific Specification

All outside wood transoms shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 700, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Head and Side of frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter a kerf in jamb and be securely nailed 2 inches apart to stop; top and sides of sash shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself, and securely nailed 1 inch apart to sash to interlock with strip on frame, making sealing joint when transom is closed.

Sill of Frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base to be securely nailed 2 inches apart so that rib will enter a groove ⅛-inch wide x ⅜-inch deep.

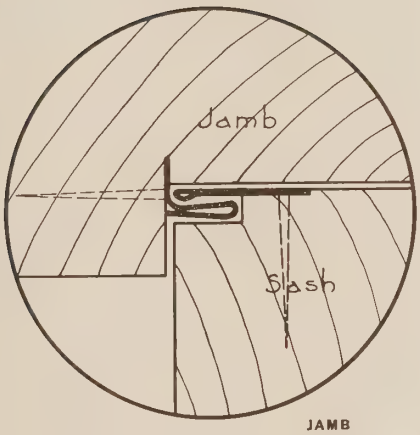
Full-Size Details—Weather Strip Gauges—Equipment No. 700



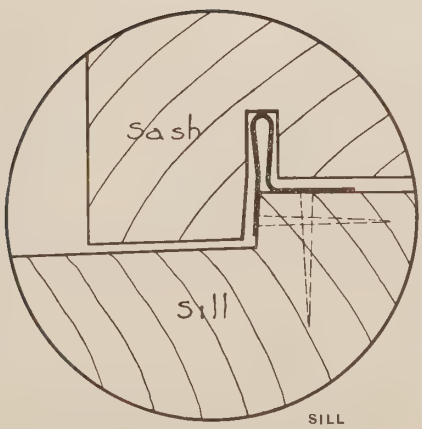
HEAD

ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Sides	5 male 21	9 10	.018 .020
Sill	25	10	.020

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Sides	5 male 21	25 25	.0179 .0179
Sill	25	25	.0179



JAMB

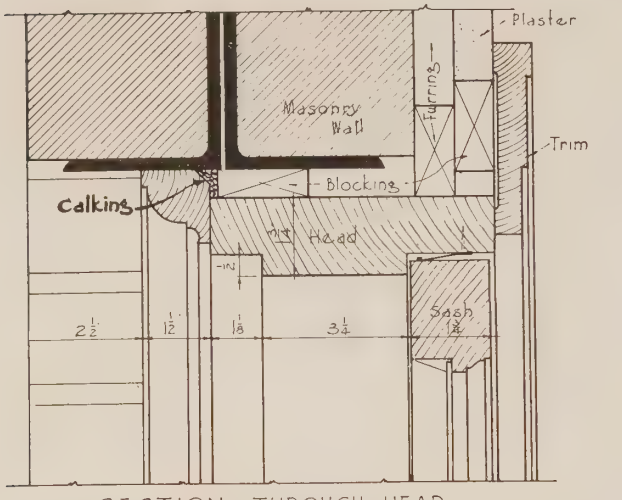


SILL

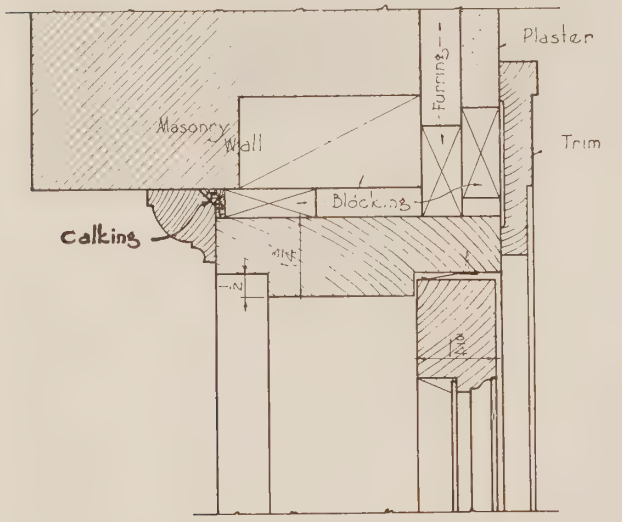
A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 700-A — Outside Transom Windows

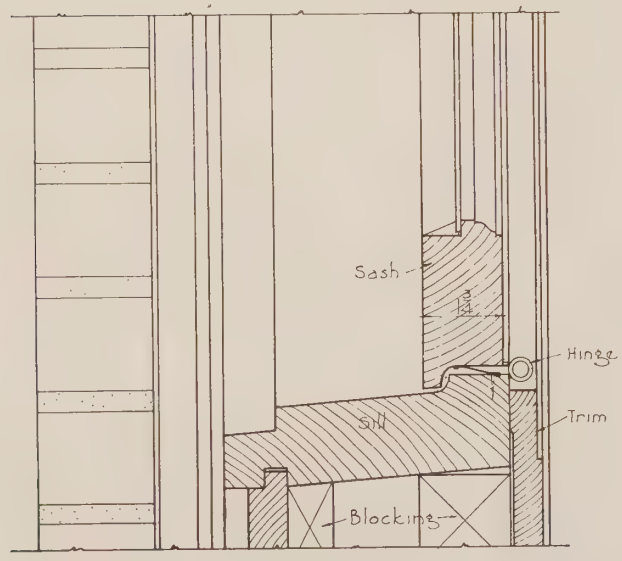
Spring Bronze



·SECTION · THROUGH · HEAD·



·SECTION · THROUGH · JAMB·



·SECTION · THROUGH · SILL·
·AND · TRANSOM · BAR·

SCALE 3" = 1' 0"

General Specification

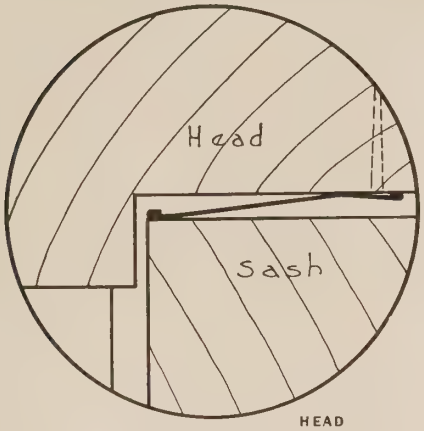
All outside wood transoms shall be equipped with Chamberlin hemmed-edge, flexible, spring bronze, Type 700-A, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

All outside wood transoms shall be equipped with Chamberlin hemmed-edge, flexible, spring bronze, Type 700-A, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Head, Sides and Sill of frame shall be equipped with hemmed-edge, spring bronze securely nailed 1 inch apart to frame; spring bronze to set in rabbet to within 1/16-inch of stop and sprung so as to touch edges of transom when closed.

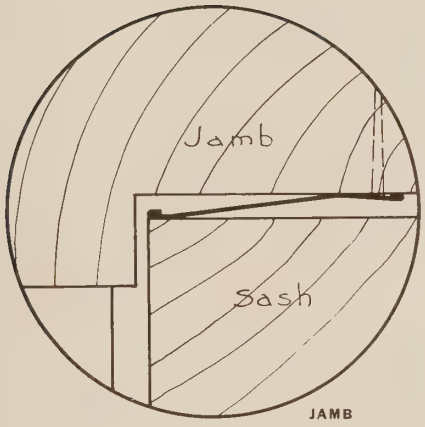
Full-Size Details — Weather Strip Gauges — Equipment No. 700-A



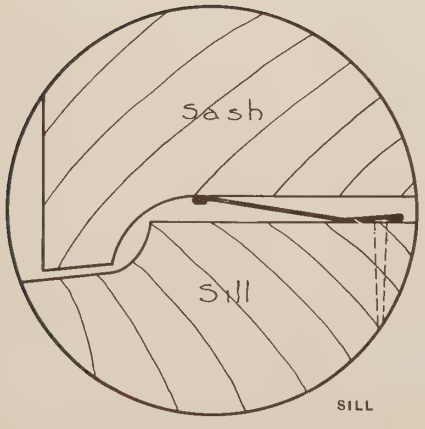
HEAD

1⅜″ SASH			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	102	31	.0089
Sides	102	31	.0089
Sill	102	31	.0089

1¾″ SASH			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	104	31	.0089
Sides	104	31	.0089
Sill	102	31	.0089



JAMB

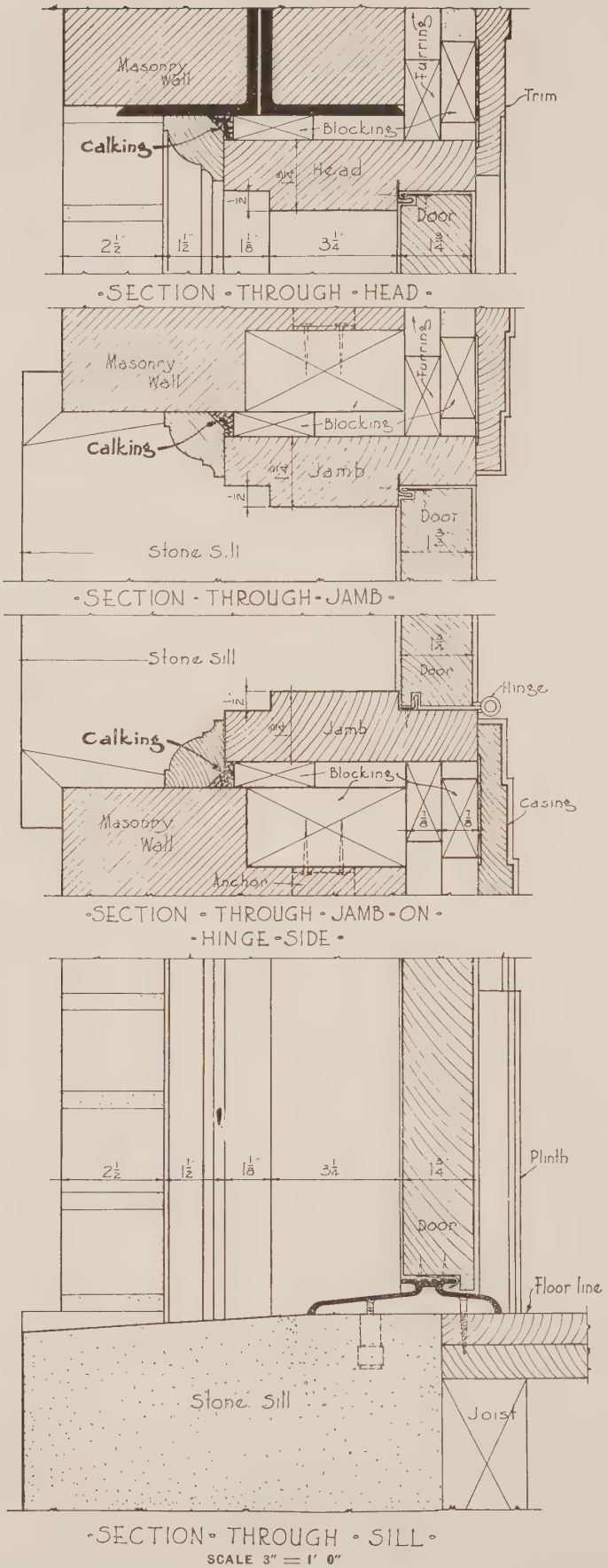


SILL

A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 800 — Outside Doors

Interlocking



General Specification

All outside wood doors shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 800, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

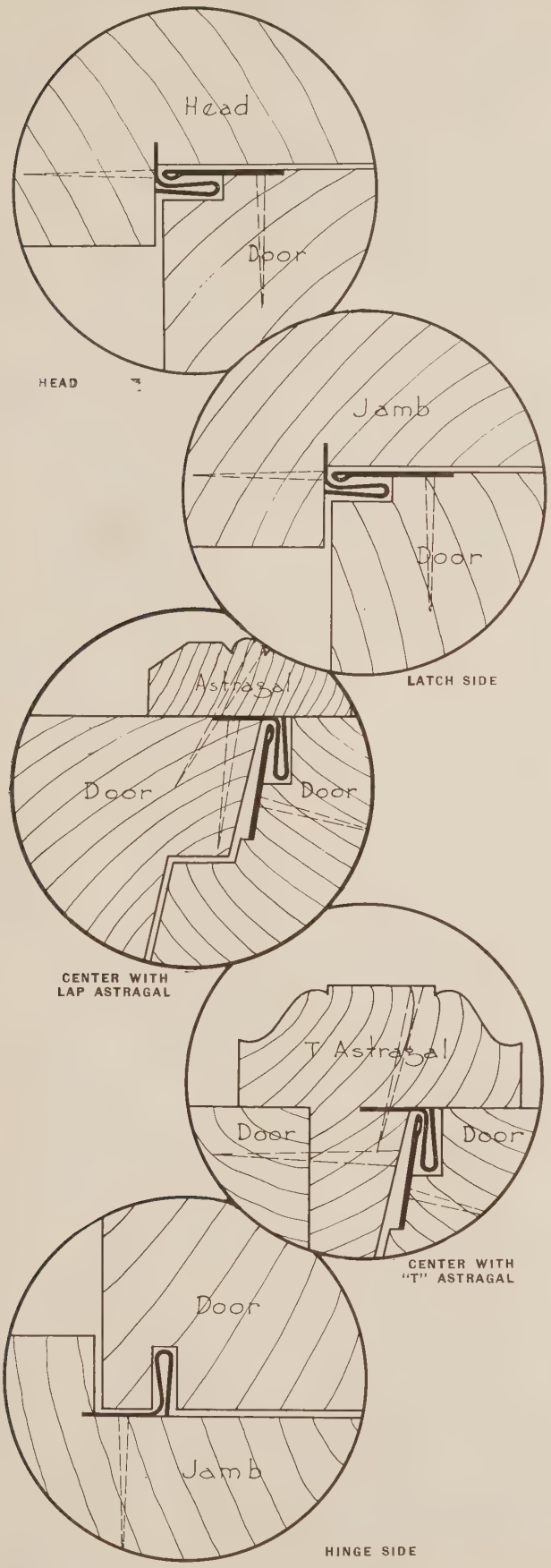
All outside wood doors shall be equipped with Chamberlin Weather Strips, ... (zinc or cold-rolled bronze), Type 800, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Top and Latch Side of frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base; base shall enter kerf in jamb and shall be securely nailed 2 inches apart to stop; top and latch side of door shall be equipped with a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart to door to interlock with strip on frame, making sealing joint when doors are closed.

Center of Double Door—Outside edge of active door shall be rabbeted to receive a flat strip .018-inch thick (.0179), folded back on itself and securely nailed 1 inch apart. Outside face of inactive door shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extending ⅜-inch at right angles to base and securely nailed 2 inches apart to interlock with strip on active door when doors are closed. If door is not already equipped with astragals the outside face of inactive leaf shall be equipped with a flat, wooden astragal securely nailed to over-lap the center when doors are closed.

Hinge Side of frame shall be equipped with a one-piece strip .020-inch thick (.0179) having beaded-edge sealing rib extend-

Full-Size Details —Weather Strip Gauges — Equipment No. 800



ZINC			
	Strip Numbers	Gauge Zinc Std.	Thickness Inches
Head	5 male 21	9 10	.018 .020
Center	5 male 21	9 10	.018 .020
Hinge side	21	10	.020
Latch side	5 male 21	9 10	.018 .020

COLD-ROLLED BRONZE			
	Strip Numbers	Gauge (B & S.)	Thickness Inches
Head	5 male 21	25 25	.0179 .0179
Center	5 male 21	25 25	.0179 .0179
Hinge side	21	25	.0179
Latch side	5 male 21	25 25	.0179 .0179

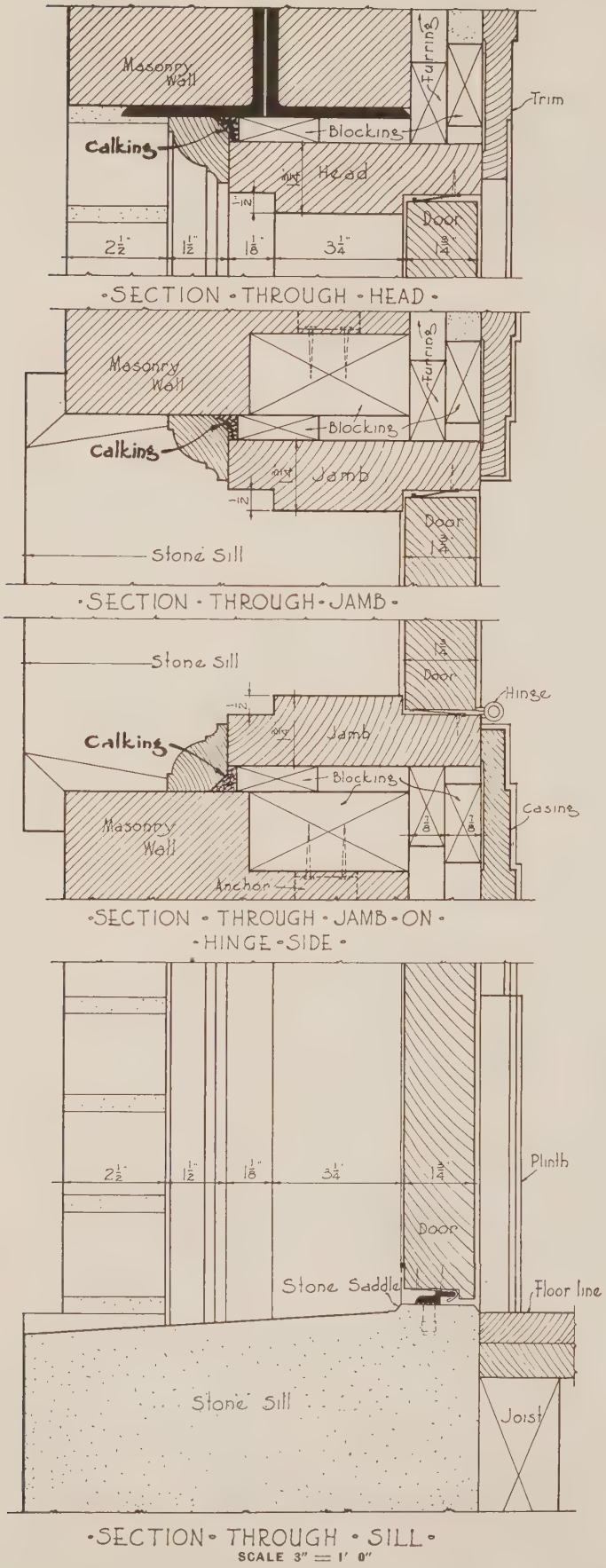
ing $\frac{3}{8}$-inch at right angles to base; rib to enter a groove $\frac{1}{8}$-inch wide x $\frac{3}{8}$-inch deep ploughed in edge of stile, $\frac{3}{8}$-inch from face of door to center of groove. Flange of strip shall enter kerf in stop and shall be securely nailed 2 inches apart to frame.

Sill Equipment and Bottom of Door—For Specifications turn to Pages 45 and 47.

A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Equip't No. 800-A — Outside Doors

Spring Bronze



General Specification

All outside wood doors shall be equipped with Chamberlin hemmed-edge, flexible, spring bronze, Type 800-A, installed in accordance with the specific specifications and by mechanics in the employ of the Chamberlin Metal Weather Strip Company, the installation to be service-guaranteed by the General Company "for the life of the building."

Specific Specification

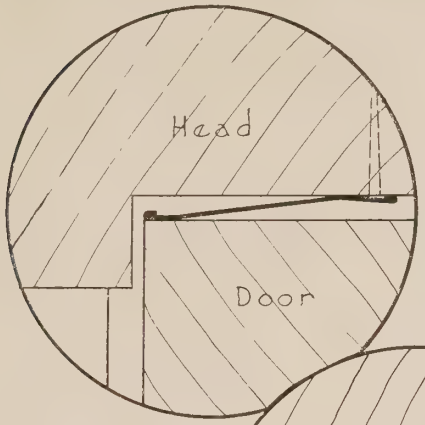
All outside wood doors shall be equipped with Chamberlin hemmed-edge, flexible, spring bronze, Type 800-A, service-guaranteed by the General Company "for the life of the building," and installed by mechanics in the employ of the Chamberlin Metal Weather Strip Company in accordance with the specifications which are as follows:

Head and Sides of frame shall be equipped with hemmed-edge, spring bronze securely nailed 1 inch apart to frame; spring bronze to set in rabbet to within 1/16-inch of stop and sprung so as to touch edges of doors when doors are closed.

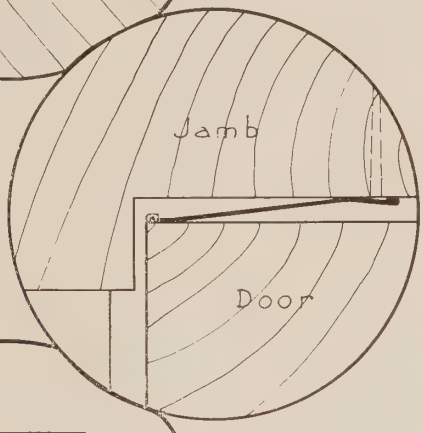
Center of Double Door—Edge of center rail of inactive door shall be equipped with hemmed-edge, spring bronze securely nailed 1 inch apart; spring bronze to set in rabbet to within 1/16-inch of stop and sprung so as to touch edge of active door when doors are closed. If door is not already equipped with astragals the outside face of inactive leaf shall be equipped with a flat, wooden astragal securely nailed to over-lap the center when doors are closed.

Sill Equipment and Bottom of Door—For specifications turn to Pages 45 and 47.

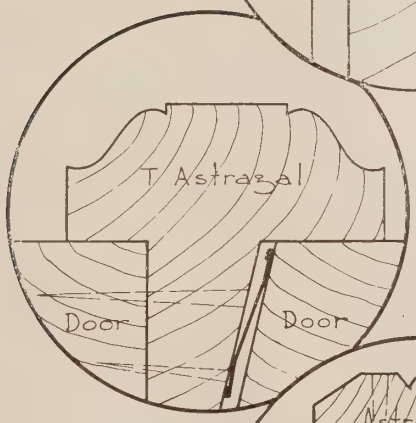
Full-Size Details—Weather Strip Gauges—Equipment No. 800-A



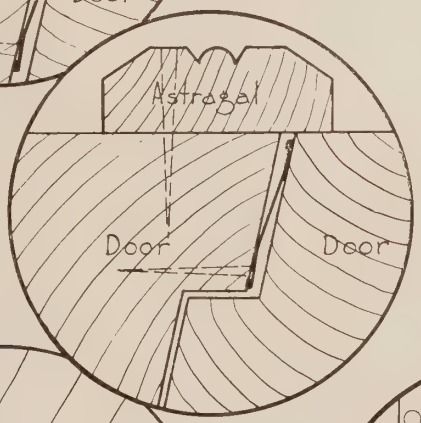
HEAD



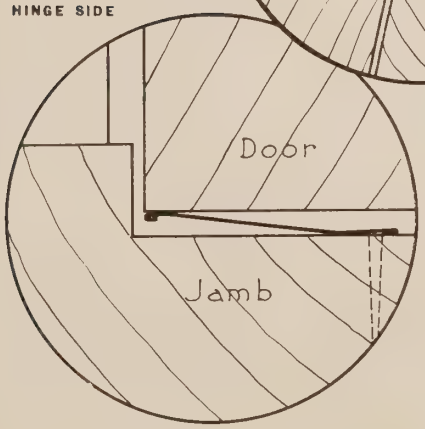
LATCH SIDE



CENTER WITH LAP ASTRAGAL



CENTER WITH "T" ASTRAGAL

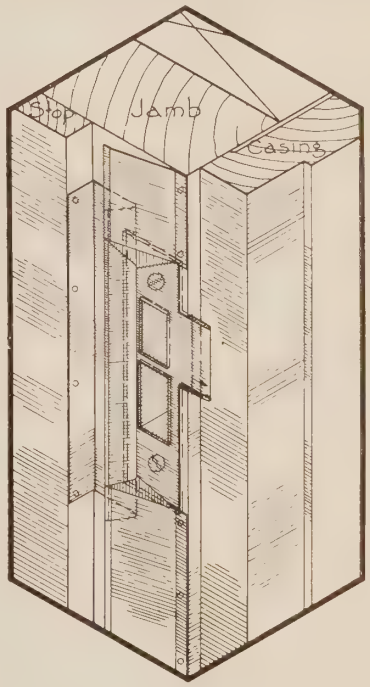


HINGE SIDE

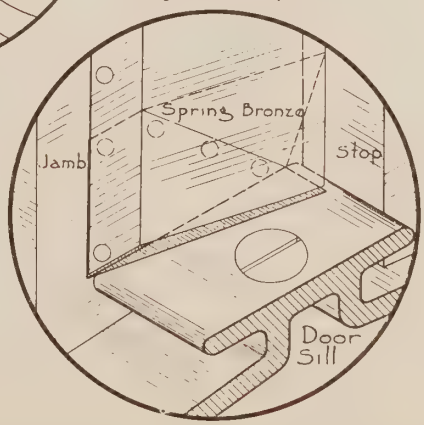
1⅜" DOOR			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	102	31	.0089
Center	102	31	.0089
Hinge side	102	31	.0089
Latch side	102	31	.0089

1¾" DOOR			
	Strip Numbers	Gauge (B. & S.)	Thickness Inches
Head	104	31	.0089
Center	104	31	.0089
Hinge side	104	31	.0089
Latch side	104	31	.0089

Chamberlin lockplate installation showing how spring bronze is fitted to make a continuous air-tight seal at latch side of doors



Chamberlin treatment to make door sill corners light and waterproof



A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Brass Sill-Dor-Seals — Outside Doors

Specifications

Chamberlin Automatic No-Dust for Outside Doors—Bottom of door shall be grooved 7/16-inch wide x 1⅛ inches deep to receive automatic NO-DUST mechanism; edges of door shall be rabbeted to receive brass plates to hold No-Dust in place; adjustment screw shall be set in frame of door to adjust plunger rod of No-Dust door bottom. Felt strip of No-Dust shall be thoroughly saturated with a paraffin compound to make felt impervious to rain and moisture.

No. 12 Sill-Dor-Seal—Bottom of door shall be cut off so as to leave ⅛-inch clearance between door and top of Sill-Dor-Seal. Sill shall be equipped with a 4-inch, 5-inch or 6-inch extruded brass Chamberlin Sill-Dor-Seal screwed or anchored to door sill.

Also see first paragraph for installing Automatic No-Dust with this threshold.

No. 13 Sill-Dor-Seal—Bottom of door shall be cut off so as to leave ⅛-inch clearance between door and top of Sill-Dor-Seal. Sill shall be equipped with a 4-inch extruded brass Chamberlin Sill-Dor-Seal screwed or anchored to door sill.

Also see first paragraph for installing Automatic No-Dust with this threshold.

No. 69 Sill-Dor-Seal—Bottom of door shall be rabbeted 5/16-inch deep x 1⅜ inches wide for 1¾-inch doors (5/16-inch deep x 1 inch wide for 1⅜-inch doors) and equipped with a cold-rolled bronze hook .0225-inch thick securely nailed 1 inch apart. Also to bottom of door a flexible spring bronze insert shall be securely nailed 1 inch apart to form a sealing contact with lip of Sill-Dor-Seal when door is closed. Sill shall be equipped with a 1-inch extruded brass Chamberlin Sill-Dor-Seal screwed or anchored to sill so as to interlock with hook when door is closed.

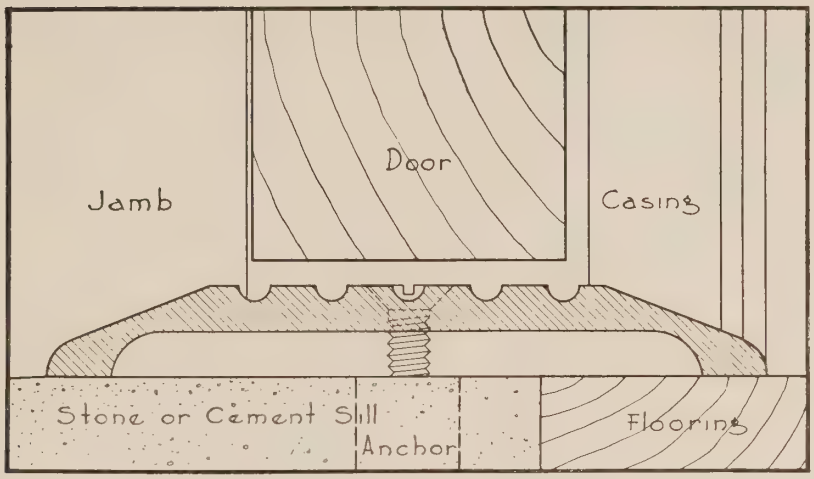
No 69-A Sill-Dor-Seal—Bottom of door shall be rabbeted ¼-inch deep x 1⅜ inches wide for 1¾-inch doors (¼-inch deep x 1 inch wide for 1⅜-inch doors) and equipped with a cold-rolled bronze hook .0225-inch thick securely nailed 1 inch apart. Also to bottom of door a flexible spring bronze insert shall be securely nailed 1 inch apart to form a sealing contact with lip of Sill-Dor-Seal when door is closed. Sill shall be equipped with a 1⅜-inch extruded brass Chamberlin Sill-Dor-Seal screwed or anchored to sill so as to interlock with hook when door is closed.

No. 34 Sill-Dor-Seal—Bottom of door shall be rabbeted ⅝-inch deep x 1⅜-inches wide for doors 1¾ inches or more in thickness (on 1⅜-inch door, bottom of door shall be cut off so as to leave a ⅝-inch sill clearance) and equipped with a cold-rolled bronze hook .0225-inch thick securely nailed 1 inch apart. Also to bottom of door a flexible spring bronze insert shall be nailed 1 inch apart to form a sealing contact with lip of Sill-Dor-Seal when door is closed. Sill shall be equipped with a 4¼-inch extruded brass Chamberlin Sill-Dor-Seal screwed or anchored to sill so as to interlock with hook when door is closed.

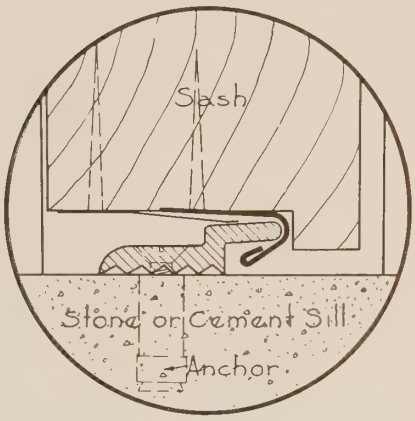
No. 34-A Sill-Dor-Seal—Bottom of door shall be rabbeted ⅞-inch deep x 1⅜- inches wide for doors 1¾ inches or more in thickness (on 1⅜-inch door, bottom of door shall be cut off so as to leave a ⅞-inch sill clearance) and equipped with a cold-rolled bronze hook .0225-inch thick securely nailed 1 inch apart. Also to bottom of door a flexible spring bronze insert shall be nailed 1 inch apart to form a sealing contact with lip of Sill-Dor-Seal when door is closed. Sill shall be equipped with a 4⅞-inch extruded brass Chamberlin Sill-Dor-Seal screwed or anchored to sill so as to interlock with hook when door is closed.

No. 36 Sill-Dor-Seal—Bottom of door shall be rabbeted ⅝-inch deep x 1⅜-inches wide for doors 1¾ inches or more in thickness (on 1⅜-inch door, bottom of door shall be cut off so as to leave a ⅝-inch sill clearance) and equipped with a cold-rolled bronze hook .0225-inch thick securely nailed 1 inch apart. Also to bottom of door a flexible spring bronze insert shall be nailed 1 inch apart to form a sealing contact with lip of Sill-Dor-Seal when door is closed. Sill shall be

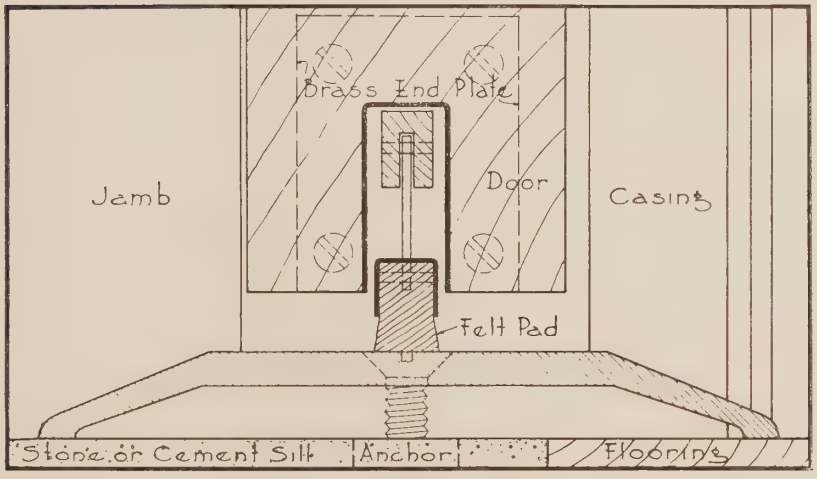
Full-Size Details — Chamberlin Sill-Dor-Seals



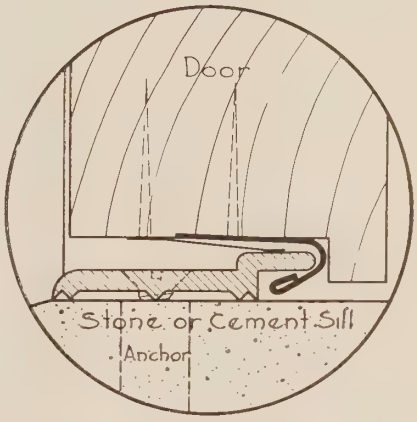
SILL-DOR-SEAL NO. 12



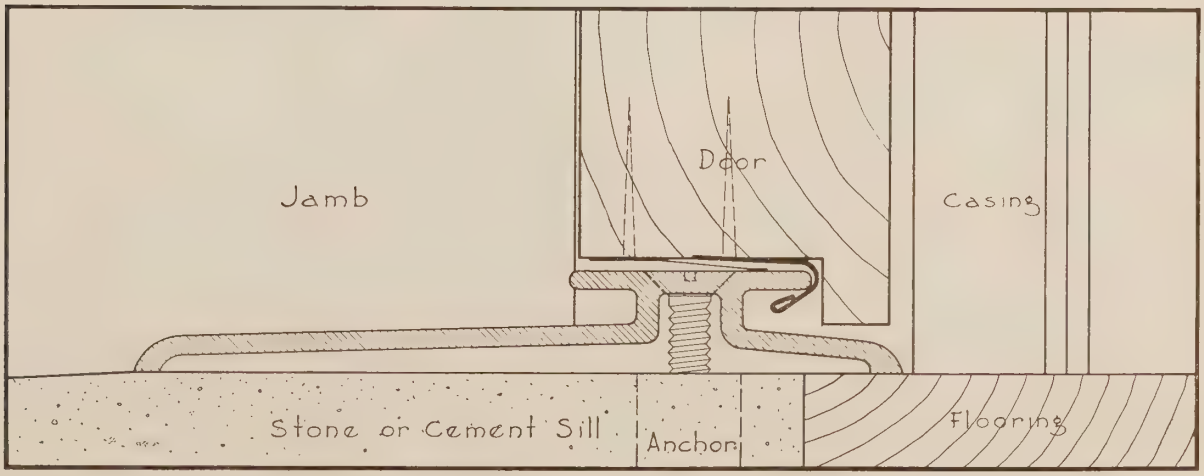
SILL-DOR-SEAL NO. 69



SILL-DOR-SEAL NO. 13 WITH AUTOMATIC NO-DUST BOTTOM



SILL-DOR-SEAL NO. 69-A



SILL-DOR-SEAL NO. 34

A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

Chamberlin Brass Sill-Dor-Seals — Outside Doors

Specifications—Weather Strip Gauges

equipped with a 6-inch extruded brass Chamberlin Sill-Dor-Seal screwed or anchored to sill so as to interlock with hook when door is closed. Brass end plates shall be fitted to ends of inside leg of Chamberlin Sill-Dor-Seal No. 36.

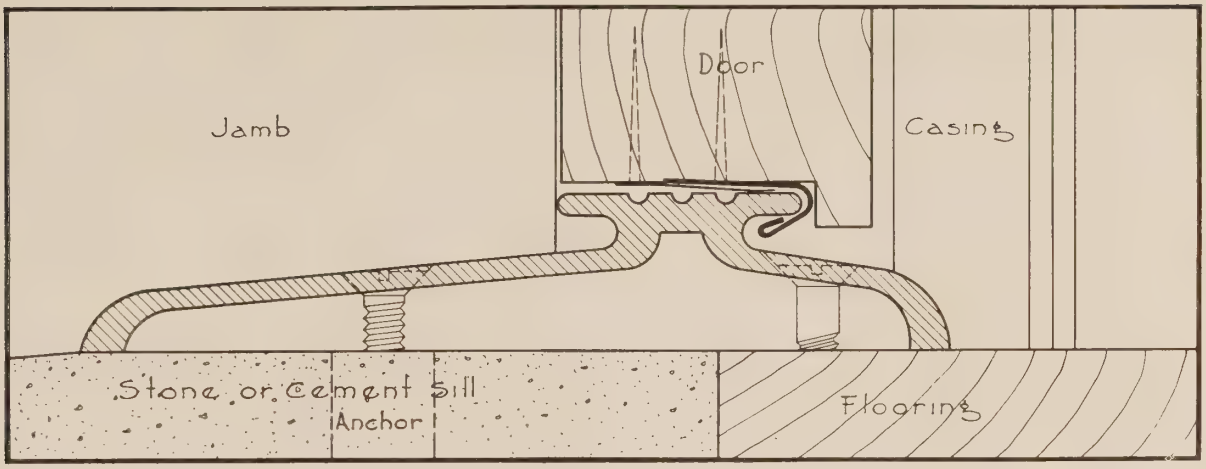
No. 38 Combination Sill-Dor-Seal and Channel—Bottom of door shall be cut off to leave a 9/16-inch sill clearance and shall then be rabbeted ¾-inch deep x 1¼ inches wide for 2¼-inch doors; and ¾-inch deep x ¾-inch wide for 1¾-inch doors and shall be equipped with a cold-rolled bronze "L" hook .0225-inch thick securely nailed and kerfed into bottom of door. Also to bottom of door a flexible spring bronze insert shall be nailed 1 inch apart to form a sealing contact with lip of upper section of Sill-Dor-Seal when door is closed. Sill shall be equipped with a 4¼-inch extruded brass combination Chamberlin Sill-Dor-Seal and channel screwed or anchored to sill so that lip of top section interlocks with hook when door is closed.

A zinc pan .020-inch thick shall be fitted so as to rest under both legs of top section of this combination Sill-Dor-Seal and channel to permit water to drain out from channel through weep holes cut in legs of top section.

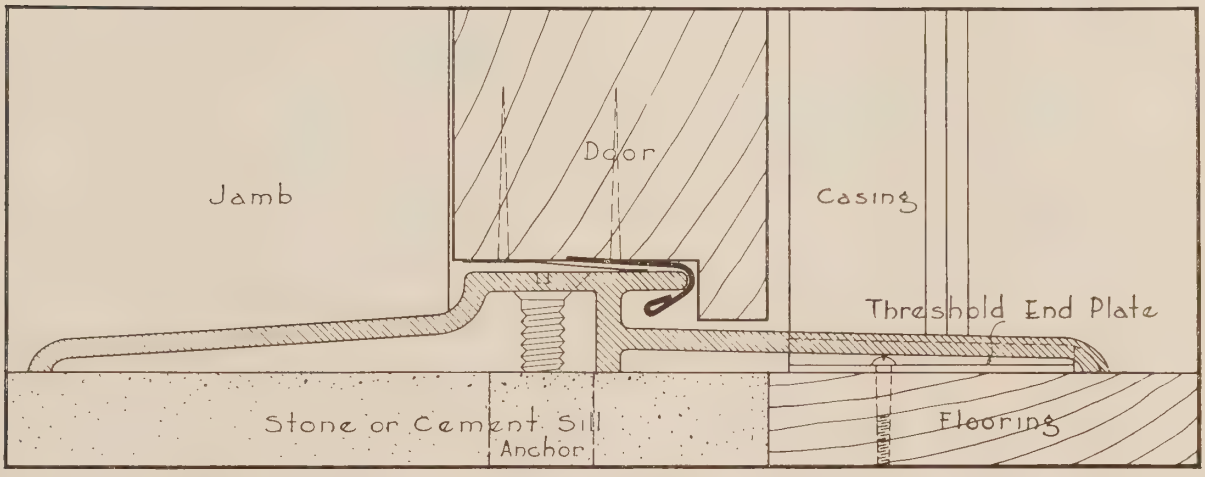
ZINC	Gauge Zinc Std.	Thickness Inches
No. 12, 4", 5" and 6" Threshold	Extruded Brass	
No. 13, 4" Threshold	Extruded Brass	
No. 69, 1" Threshold	Extruded Brass	
No. 69-A, 1⅜" Threshold	Extruded Brass	
No. 34, 4¼" Threshold	Extruded Brass	
No. 34-A, 4⅞" Threshold	Extruded Brass	
No. 36, 6" Threshold	Extruded Brass	
No. 38, 4¼" Comb. Thr'h'd & Channel	Extruded Brass	
Automatic No-Dust Shells	12	.028
No. 26 Hook for Nos. 69, 69-A, 34, 34-A, 36	12	.028
No. 39 "L" Hook for No. 38	14	.036
No. 30 Drain Pan for No. 38	9	.018

COLD-ROLLED BRONZE	Gauge (B. & S.)	Thickness Inches
No. 12, 4", 5" and 6" Threshold	Extruded Brass	
No. 13, 4" Threshold	Extruded Brass	
No. 69, 1" Threshold	Extruded Brass	
No. 69-A, 1⅜" Threshold	Extruded Brass	
No. 34, 4¼" Threshold	Extruded Brass	
No. 34-A, 4⅞" Threshold	Extruded Brass	
No. 36, 6" Threshold	Extruded Brass	
No. 38, 4¼" Comb. Thr'h'd & Channel	Extruded Brass	
Automatic No-Dust Shells	23	.0225
No. 26 Hook for Nos. 69, 69-A, 34, 34-A, 36	23	.0225
No. 39 "L" Hook for No. 38	20	.0319
No. 30 Drain Pan for No. 38	25	.0179

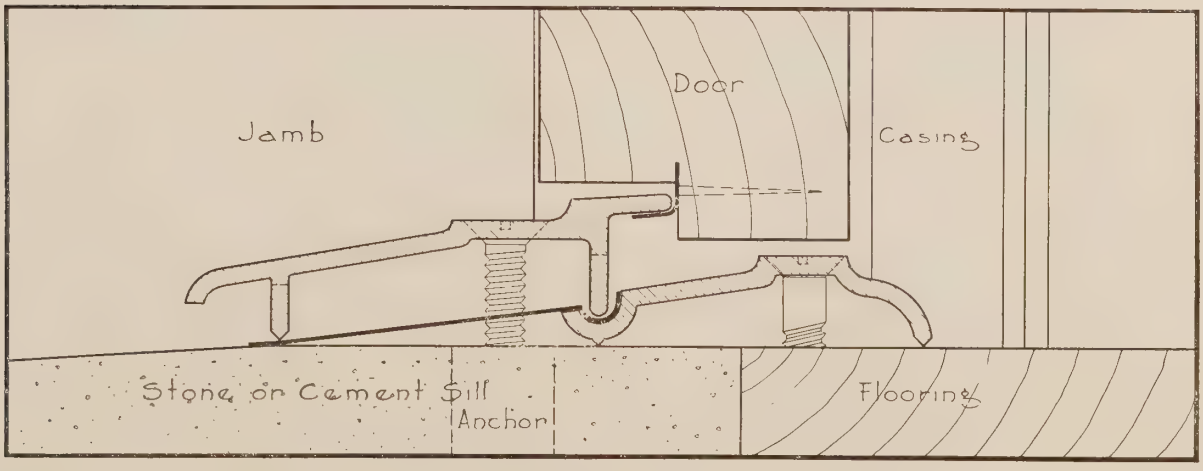
Full-Size Details — Chamberlin Sill-Dor-Seals



SILL-DOR-SEAL NO. 34-A



SILL-DOR-SEAL NO. 36



SILL-DOR-SEAL NO. 38

A Weather Strip Has Value Chiefly in Proportion to Installation Quality and Available Service

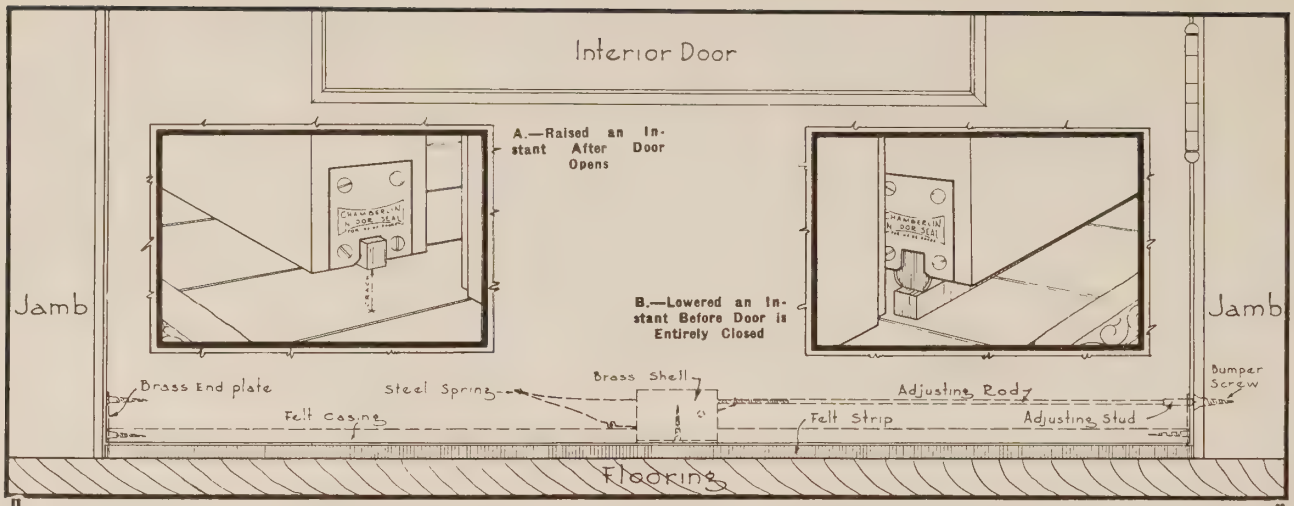


FIG. 3—CROSS SECTION DETAIL AND PERSPECTIVE OF CHAMBERLIN IN-DOR-SEAL

Chamberlin Automatic In-Dor-Seal — Interior Doors

This appliance so effectually serves a need that it has well merited the interest aroused among architects, builders and the public. Its benefits are appealing in many different ways and in many different types of buildings.

In the Home—Neatly fitted in the bottom edge of bedroom doors it becomes a barrier to the cold under-door draughts which would otherwise escape to chill the remaining areas of the home. At night, with sleeping-room windows open, bedroom doors are virtually outside doors, the unsealed under-door crack being equivalent on the average to a 5" x 3" opening.

Also in the home, Chamberlin In-Dor-Seals are used on basement doors against the escape of furnace dust and laundry steam; on kitchen or dining room doors to bar cooking odors and deaden kitchen noises; on attic doors to prevent the loss of heat; on bath room doors to retain warmth and deaden water-closet noises and on clothes closet or storage room doors to eliminate dust and soot.

In the Hospital—On the doors of patient rooms and doors leading to sleeping porches to keep cold draughts from circulating into corridors and the remaining portions of the Hospital; on doors of patient rooms and operating rooms to deaden corridor noises; on operating room doors to prevent the escape of anesthetic odors; on X-ray rooms and plate developing rooms to keep out dust and light.

In the School and University—On the doors of study and lecture rooms to deaden corridor noises; on the doors of Chemistry laboratories to confine gaseous odors.

In Offices—On the doors of private offices to insure privacy and freedom from disturbing noises.

In Hotels and Apartments—On all doors leading to hallways and corridors to prevent draughts from escaping from rooms and apartments into the halls, and vice-versa.

The Chamberlin In-Dor-Seal is strongly made—its action controlled by a spring-steel spring of guaranteed quality. The action of the felt pad downward and upward synchronizes with the opening and closing of the door. This is accomplished with the aid of the adjusting rod directly connected with the spring, the rod being forced in or out as it makes or releases a contact with the bumper screw in the jamb of the door.

The action is silent and of course, automatic. The felt is lowered an instant before the door is entirely closed and again rises an instant after the door opens. The clearance of the felt is adjusted so that there will be no interference with rugs, mats, runners, carpets, etc.

Specifications

Chamberlin Automatic In-Dor-Seal for Interior Doors — Bottom of door shall be grooved 7/16" deep x 1⅛" wide to receive automatic In-Dor-Seal mechanism; edges of door shall be rabbeted to receive brass plates to hold In-Dor-Seal in place; bumper screw shall be set in frame of door to adjust plunger rod of In-Dor-Seal. Felt of In-Dor-Seal shall be soft and non-scratching.

ZINC		
	Gauge Zinc Std.	Thickness Inches
Automatic In-Dor-Seal.....	12	.028

COLD-ROLLED BRONZE		
	Gauge (B. & S.)	Thickness Inches
Automatic In-Dor-Seal.....	23	.0225

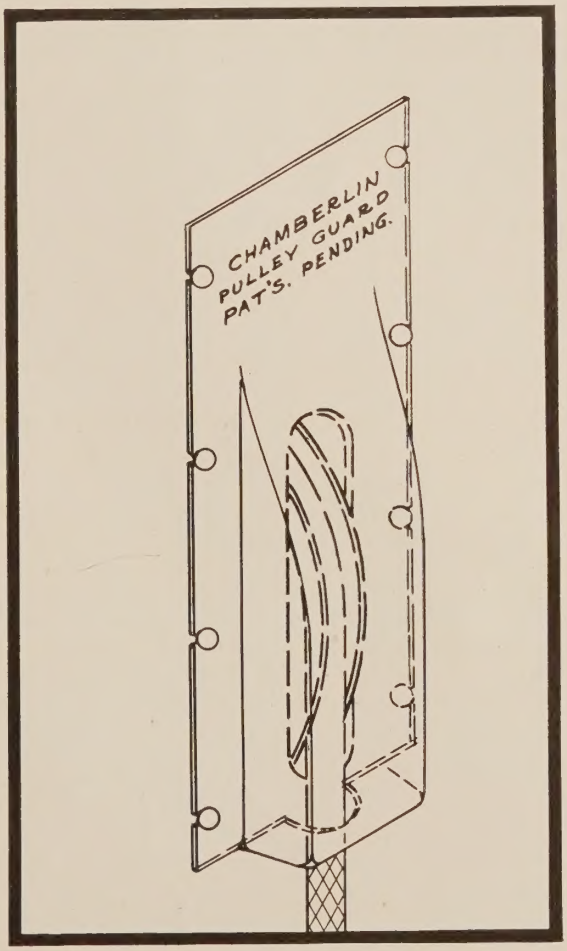
Chamberlin Service Also Eliminates Elsewhere Leakages

CHAMBERLIN WEATHER STRIPS prevent air leakage between sash, doors and their frames. Chamberlin Plasti-Calk seals cracks around window and door frames, cracks in the frames and will effectively re-glaze window glass. The last two sources of air leakage, together with wall leakage, are quite generally referred to as Elsewhere Leakages.

A Chamberlin 1925 Invention

A Pulley Cover Eliminates Elsewhere Leakage at Pulleys for Lower Sash of Sliding Windows

Chamberlin Pulley Covers of solid brass assist in eliminating the Elsewhere Leakage which has found its way into the weight boxes and then tends to find its way into the interior through the pulley holes.



CHAMBERLIN BRASS PULLEY COVER FOR LOWER SASH PULLEY HOLES. FULL SIZE.

Chamberlin Pulley Covers hide the pulleys. They also act as a stop for the lower sash. The rolled edge of the cord-opening will not fray or cut the cord. This edge also acts as a guide to keep the cords from "jumping" or coming off the pulleys.

See Fig. 2, Page 9 for Complete Results of Authoritative Tests on Leakages Through Walls and Various Parts of Double-Hung Windows and Frames, including Cracks around the Frames.

Reference List of Standard Gauges

Zinc Standard — Brown and Sharpe

Brown & Sharpe gauge is ordinarily used to specify the thickness of bronze and copper. Sheet zinc is usually measured by a Standard zinc gauge used by the manufacturers of sheet zinc.

The following tables will be found of assistance in making comparisons between the gauges given for zinc and bronze strips:

ZINC GAUGE	
No.	Thickness in inches
3	.006
4	.008
5	.010
6	.012
7	.014
8	.016
9	.018
10	.020
11	.024
12	.028
13	.032
14	.036
15	.040
16	.045
17	.050
18	.055
19	.060
20	.070
21	.080
22	.090
23	.100
24	.125
25	.250
26	.375
27	.500
28	1.000

BROWN & SHARPE GAUGE	
No.	Approximate thickness in inches
34	.0063
33	.0070
32	.0079
31	.0089
30	.0100
29	.0112
28	.0126
27	.0141
26	.0159
25	.0179
24	.0201
23	.0225
22	.0253
21	.0284
20	.0319
19	.0358
18	.0403
17	.0452
16	.0508
15	.0570
14	.0640
13	.0719
12	.0808
11	.0907
10	.1018
9	.1144
8	.1284
7	.1442
6	.1620
5	.1819
4	.2043
3	.2294
2	.2576
1	.2893
0	.3249
000	.4096

DECIMAL EQUIVALENTS OF FRACTION OF AN INCH	
1/64	.016
1/32	.031
3/64	.047
1/16	.063
5/64	.078
3/32	.094
7/64	.109
1/8	.125
9/64	.140
5/32	.156
11/64	.172
3/16	.187
13/64	.203
7/32	.219
15/64	.234
1/4	.250
3/8	.375
1/2	.500
1	1.000

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Knoxville, Tenn.	215 Commerce Ave.
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